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Address.

RECENT ADVANCES IN DERMATOLOGY WHICH ARE OF SERVICE TO THE GENERAL PRACTITIONER.*

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Four years ago,[1] when I last had the honor of presiding over this Section, my address was entitled "Notes on Some of the Newer Remedies Used in Diseases of the Skin." At that time I called attention to the very large number of new remedies which were continually presented to the profession, remarking that it was well "now and again to stop and weigh and try to estimate the value or worthlessness of the new and to see what of it should be added to our stock of old, and thus to recognize where true advance had been made." It is in this spirit that I again take up the matter, and I wish to present some of the more recent advances in dermatology, which are of service to the general practitioner.

In my former address I called attention to the fact, however, that it was not so much new remedies which are needed as it was better acquaintance with the diseases to be treated, and a more perfect knowledge of the means we already had; and also that in connection with newer remedies it is most desirable that very definite statements should be made, by reliable observers, of the exact conditions of use, and also the adverse results, as well as those which are favorable. I also remarked that as a rule general practitioners, I believe, were far more apt to try the newer remedies proposed than were those engaged in special practice. The specialist naturally weighs the true value of this or that new suggestion, and being fairly well satisfied with his present equipment, is less prone to rush into the new, except on very good evidence of its worth; and it may be added, much that is brought forward is often found to rest on very slender experience.

It would be quite beyond the possibilities of this address to attempt to cover the whole ground of recent advances in dermatology, and attention will be called only to such items as are likely to be of service to the general practitioner. We may, for the convenience of study, consider one subject under the three divisions of diagnosis, prognosis and treatment.

DIAGNOSIS.

Dermatitis.—Considerable progress has been made of late years in the way of recognizing various inflammatory conditions of the skin, under the general name dermatitis, and much that was formerly classed as eczema is now thus designated. All are now quite familiar with the dermatitis herpetiformis of Duhring, characterized by a variety of lesions, erythematous, papular, vesicular and bullous, which often very closely resemble eczema. The characteristic feature, however, is a grouping of the lesions and a recurrence of the attacks without any recognized cause. A recognition of the true nature of this often intractable disorder will often prevent much disappointment in the way of prognosis.

Dermatitis Medicamentosa.—Recent years have added very largely to the list of medicinal rashes or forms of dermatitis medicamentosa, and the number of drugs which have been observed to cause an eruption, in rare cases, is now very large. Time and space forbid dwelling on the features of the different appearances presented, but it may be interesting simply to mention the drugs which have been observed to produce skin lesions. These are aconite, antipyrin, arsenic, belladonna, boric acid, bromin, cannabis indica, carbolic acid, chloral, condurango, copaiba, cubebs, digitalis, iodin, jaborandi, mercury, opium, phosphorus, podophyllin, quinin, salicylic acid, santonin, sodium benzoate, strychnia, tar, turpentine, and perhaps some others. It is to be noted that the production of such effects is due to some idiosyncrasy on the part of the patient, for their occurrence is rare. It is well, however, for the general practitioner to bear the possibility in mind when eruptions of the erythematous type occur suddenly which do not quite correspond with well recognized affections.

Another form of dermatitis which recent advances have added is that due to the injury sometimes inflicted by the *x*-rays. This need not detain us here except to give the caution against a hasty favorable prognosis, for in many instances on record it has proved most rebellious, and in some cases has been attended with serious consequences.

Blastomycetic Dermatitis.—Still another addition has been made to the lesions classed under the same general name in the dermatitis blastomycetica, or yeast mycosis. This curious and rather rare affection resembles most the verrucose types of tuberculosis of the skin, but it is desirable to correctly diagnose it from these forms of lupus, as thorough and radical treatment offers very satisfactory prospects of cure.

La Grippe Rashes.—Very interesting additions to the list of acute erythematous skin lesions are those which have of late years been described in connection with la grippe; and often these will prove very puzzling to those not very well acquainted with diseases of the skin. In some instances the eruption is hardly distinguishable from measles, and in others it will be so confluent that scarlatina is closely simulated; sometimes it is impossible to determine the true nature of the eruption at once, and it is only by the concomitant symptoms that

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1. Jour. A. M. A., Nov. 28, 1896.

a probable diagnosis can be made. These la grippe eruptions are generally very short-lived, although sometimes they may persist and even recur, and from the catarrhal symptoms often present are not infrequently reckoned as second or repeated attacks of measles.

Erythromelalgia, which was described by Weir Mitchell in 1872, has attracted some attention of late years, and is shown to be sufficiently frequent to merit attention. It is characterized by a flushing of the skin, mainly of the extremities and ears, with at times considerable burning pain. Often a single toe may be affected in such a manner that walking is difficult or impossible. It is particularly interesting, as the condition may be strongly suggestive of gout, or even of erysipelas. The attacks may be of brief duration, or the redness may persist for a considerable time, with no appreciable alteration of tissue. It is due to a nerve disturbance, either paralysis of the vasoconstrictors or an excitation of the vasodilators, and may be regarded as exactly the opposite condition to that which obtains in Raynaud's disease.

The pre-mycotic stage of mycosis is an interesting phase of skin lesion, happily very rare, which has been clearly established of late years. Long before the tumors appear, which were formerly supposed to constitute the affection, there may be a period of erythematous eruption in patches and circles which ultimately lead up to the fully developed malady. These erythematous lesions may often resemble erythema multiforme or erythematous eczema and may be very puzzling. There is generally not very much itching or subjective symptoms, and only the brownish-red circles or patches of varying size, generally first on the body and limbs, which either may slowly subside or remain and develop into the slightly protuberant, and later ulcerating, granulomatous masses which lead up to the distressing and sooner or later fatal disease.

Tuberculosis cutis has also obtained a full recognition of late years, and though comparatively rare, it may at times be of considerable interest to the general physician. While lupus vulgaris is also recognized as due to, or at least associated with, the presence of tubercle bacilli, the name, "tuberculosis cutis," is most commonly given to the warty masses seen from time to time, principally about the hands and face. While lupus probably comes from the infection of the bacilli through the medium of the lymphatics and blood-vessels, the tuberculous cutis verrucosus has to do with primary local infection, and the disease tends to remain more or less local, or increases very gradually. When removed effectively the disease generally remains absent, a healthy cicatrix taking its place. It is most commonly seen in butchers, and also in anatomists, and in those having much to do with tuberculous patients, as in laundresses who have cared for their clothes.

Ringworm.—The advances in the study and knowledge of ringworm, while not yet resulting in any very startling improvement in therapeutics, should still be of interest to practitioners. It has been found that what has hitherto passed as a single disease probably represents a number of distinct affections due to parasites which may be quite different in their microscopic appearance, behavior under cultivation, and also in their clinical effects on the skin. A large share of the eruption on the heads of children is due to the small-spored fungus, which rarely attacks adults; while the forms of ringworm found on the other portions of the body are due to one or two different varieties of trichophyton, which also readily affect adults. It is claimed that the varieties causing suppuration, as seen mainly on the bearded face, are derived from animals. It is interesting to determine, microscopically, whether the scalp disease is caused by the microsporon or the megalosporon, as the former is much more obstinate to treatment and a more unfavorable prognosis as to duration is necessary.

PATHOLOGY.

In the pathology of skin diseases there has still been considerable activity of research, and clearer views are obtained each year in regard to many affections.

Eczema has been the object of much consideration, and there have been several notable studies and discussions in regard to its true nature, while the old question as to its local or constitutional origin has been repeatedly considered. One writer (Larrede) has been very strenuous for a parasite origin of much that is called eczema, while another careful thinker (Leslie Roberts) argues strongly and rightly, as we believe, in the direction of the very great importance of the resistive power of the skin in the direction of nervous control.

Seborrheic Eczema.—Very great advance has been made in the full recognition of seborrheic eczema, with which the name of Dr. Unna will always be associated. While it is not definitely proven that it is due to a micro-organism, this is about accepted by most dermatologists, and the almost specific control of it by resorcin and sulphur is one of the most satisfactory advances in dermatology, which every practitioner may share.

Alopecia Areata.—Interesting and elaborate studies have been made by Sabouraud and others in regard to the pathology of alopecia areata and much evidence has been brought forward, both in writing and discussions in regard to its parasitic and its nervous origin, and the true nature of all cases of this interesting disease is not yet established. The opinion is prevailing more and more, however, that both views are correct, and that there are probably two affections, closely resembling each other, one caused by a micro-organism and the other of nervous origin. This is not at all surprising when we consider how closely many other skin lesions of quite different characters resemble each other, as lupus and tubercular syphilis, psoriasis and ringworm, etc.

Role of Pus Organisms.—Many studies have been made of late years in regard to the rôle of pus organisms in the production of skin diseases, and many have been very strenuous in regard to their pathologic influence. Elliot[2] has made a careful review of the literature, and his conclusions must be somewhat disappointing to the ardent supporters of micro-organisms as a sole cause of disease—for he finds that while the pyogenic organisms, the staphylococci and streptococci are in general the cause of suppuration, they are not the only cause. In a large proportion of cutaneous diseases, primarily or secondarily suppurative, no constant pyogenic serum organisms have been found and inoculation experiments have usually been negative or have failed. This coincides with what had been expected by those who take the broadest view of dermatologic medicine, and who realize that vitality and innervation play an important part in the production and cure of skin affections as well as those of other organs.

Dr. White, Jr., of Boston, has made some very interesting studies in regard to the rôle of staphylococcus in skin diseases, and while he demonstrates that the pus

2. Elliot: Jour. of Cutan. and Genito-Urin. Dis., February, 1900.

cocci were found in a variety of pustular lesions, he acknowledges that the form and variety of the lesions depend upon other elements. No one can rightly deny the power of micro-organisms to produce disease, for the results of aseptic surgery are incontrovertible, but there is great danger in connection with diseases of the skin lest local pathology lead to a neglect of the more important consideration of the soil on which the germs flourish; a striking illustration of the bearing of this remark is found in the change of opinion which has come over the medical world in regard to the relative importance of attention to the microbe in tuberculosis, as compared with the more important elements of the nutrition and hygienic condition of the patient. Pus organisms, as also an infinite variety of bacteria, are almost omnipresent, and when opportunity offers, pathogenic organisms do germinate and their toxin causes disease. But, on the other hand, the very omnipresence of these germs and the relative infrequency of their action certainly shows us that the truly wise physician should look to more than the local cause and seek to discover and remedy the underlying cause in each case. This points once more to the wisdom of the precept that it is often the patient who is to be treated rather than the disease by a specific name.

THERAPEUTICS.

Very much has been reported of late years in the line of therapeutics of diseases of the skin, and if one should adopt the various suggestions appearing in literature there would be a never-ceasing change of methods, which certainly would not be of service in the practical management of cases. It sometimes requires not a little determination to resist the apparently plausible assertions of writers in regard to the value of this or that new remedy or procedure. It must ever be remembered that cases of the same disease often differ very greatly in their behavior under treatment, and also that remedies or measures often succeed much better in the hands of the one who proposes and uses them than they may do when employed by another. Every workman knows his own tools, and better work can often be done by a skilled workman with poor tools than by a poorer artificer equipped in the best manner. From a very considerable experience with new remedies and old, I would therefore utter a word of caution against the too ready acceptance of "therapeutic hints" which are so overabundant in this day of intense restlessness in every field of human activity.

Newer Remedies.—In looking over my address of four years ago I find a number of the newer remedies there mentioned which have well stood the test of time since that date, and some which are there mentioned more or less favorably which I do not now advocate. I will not consume time in going over all these again, but may make a few remarks about some which seem appropriate.

Resorcin and ichthyol have more than held their own, and all that was said of them still holds good, and more could be added if desirable. I do not know whether much can be said in favor of thiol and tumenol, then mentioned; I seldom employ them or hear of their use, as I have never felt satisfied that they were better than ichthyol—if this can be obtained pure, which is often difficult. Alumnol, betanaphthol, aristol and europhen hold their own, and menthol is often of great value in controlling itching. Peroxid of hydrogen is used with increasing confidence in connection with many ulcerative conditions of the skin, and is also of value in chloasma, and to bleach superfluous hair on the face or elsewhere, and appears to have a measure of effect in destroying the life of the latter. Camphor-chloral and camphophenique are still regarded as valuable antipruritics, and lanolin, vaselin, cosmolin, albolene, etc., are in constant use. The various dusting powders made from stearates, as also the dolomol preparations have their uses under certain conditions and are still regarded as valuable. The effort to produce adherent dressings to the skin, alluded to in my former address, has not been as successful as was hoped, and the results from plasters, gelatin dressings, etc., are not always as satisfactory as could be desired, although some of the prepared and medicated plasters serve an excellent purpose in certain chronic and hard conditions of the skin. Finally, medicated soaps, which were there alluded to, are slowly assuming their proper place in dermatology, which will never be a very large one; under suitable conditions they are of service, but in inexperienced hands there is more danger from their injudicious use than is commonly appreciated.

Phototherapy and X-Rays.—Among the newer therapeutic agents from which much has been expected perhaps the first which should be mentioned is that of light, as found in the *x*-rays and the so-called Finsen phototherapy. It is perhaps too soon to form a correct opinion of the real value of this means of treatment, and some of the earlier reports have been so extravagantly favorable that very strong hopes were raised that in this we had at last a successful means of combating that rebellious disease, lupus. But when we recall the enthusiastic reports attending the earlier use of Koch's tuberculin in lupus, and consider that now that method of treatment is practically discarded, there is reason to fear that the hopes now held out by this new method may also prove illusory.

It is hardly necessary here to describe the apparatus or the exact method of treatment, suffice it to say that it consists in means whereby the direct rays of the sun somewhat concentrated and deprived of its red or heat rays are made to impinge upon the affected area. Both the direct rays of the sun and those obtained from an electric arc-light have been used, and many reports have been given in which the disease has gradually shrunken away and disappeared. Whether the claimed cures will be permanent time alone will show, and as far as I can learn, there are not many dermatologists who are enthusiastic over the procedure. In the cases treated the patient has been subjected to the altered rays of light for several hours at a time, and daily sittings are generally required, while the treatment lasts over some weeks. The treatment has been especially developed by Finsen, of Copenhagen, and Dr. Hopkins, of Brooklyn, has installed an apparatus for this phototherapy, but I have not yet learned of any results obtained there.

Therapy of Lupus.—The *x*-rays have also been used for lupus, and a number of writers have reported cases of apparent cure, but it is yet too soon to be certain as to ultimate results.

In connection with this treatment of lupus should be mentioned the excellent results which have been reported by Lang, of Vienna, and many others, from the complete excision of the disease under perfect aseptic conditions, with subsequent treatment by plastic surgery or skin-grafting. The reported results are so satisfactory that there should be no hesitancy in accepting this as the quickest, and in many respects the most satis-

factory, method of dealing with certain cases of this most rebellious disease.

Treatment of Lupus Erythematosus.—The treatment of lupus erythematosus has also received considerable attention of late years, but unfortunately no very great advances have been made; although phototherapy has been reported to have yielded good results in this disease. Whitehouse has recently reported the cure of lupus erythematosus with the internal use of iodoform, one grain three times daily, and I have seen great apparent benefit from its use in this disease. The number and variety of local measures which have been recommended during the past few years show that we are yet far from having a certain remedy for the disease; all of them have the object of altering the vital relations of the tissues. One which is well worth trying, and which I have seen of service, is the local use of arsenic, either in the form of diluted Fowler's solution, or a solution of arsenious acid, beginning with two grains to the ounce in water and increasing the strength, so as to produce some moderate cutaneous excitation. After its use a mild, soothing lotion, such as that of calamin and zinc, is applied.

The current literature of the past few years is very full of suggestions of various kinds in regard to the treatment of very many of the common diseases of the skin, but unfortunately there are but few of them which are of such special and certain value as to warrant much detail here. We may mention a few of the most valuable.

Arsenic in Eczema.—Some writers have again brought up the almost specific control which arsenic will have over eczema in small children, when given freely and for a prolonged time, as the present writer showed some time ago; it seems to have less effect on the disease after the age of 5 years. The present writer would call especial attention to the value of milk in connection with the treatment of eczema if used in exactly the right manner, as detailed before the ASSOCIATION two years ago. In cases of neurotic eczema the results will often be very striking, if the method is accurately followed. This consists in taking a tumblerful of milk, slightly warmed, one hour before each meal, followed, if possible, by a rest of half an hour in a darkened room. The milk should be taken pure and alone, no atom of other food being taken with or soon after it, and care being exercised that the stomach is entirely free from food or medicines previously taken. When used in this way the milk acts as a powerful nerve tonic, and neurotic eczema will often yield much more rapidly and satisfactorily than without it.

Local Therapy in Eczema.—Very much has been written of late years in regard to the local treatment of eczema, and to even briefly enumerate the various remedies and measures which have been proposed would more than consume the time alloted to this address. Undoubtedly for the different stages and phases of this protean eruption very varied treatment may at times be required, but it seems suitable to utter a word of caution against the too ready acceptance of much that is prescribed.

Lassar's paste (zinc oxid, ʒii; pulv. amyli, ʒii; vaselin, ℥i; m.), to which may be added camphor, salicylic acid or resorcin, 2 to 4 per cent., or even more, is certainly a very valuable addition to our means of combatting subacute eczema.

The various gelatin-glycerin preparations, applied so as to form a firm, adherent coating on the part, are still extolled by many, but the present writer has not of late made great use of them. The following is one of the latest formulæ, which should be of service in certain conditions:

℞. Gum tragacanth ..... ʒiiss
Gelatin optim. ..... ʒii
Glycerin ..... ʒvi
Thymol ..... gr. ¼
Aquæ destil. q. s.

Soak the tragacanth and the gelatin each in ten ounces of water over a steam bath for twenty-four hours, strain through muslin and make the final quantity up to twelve ounces with water.

Ichthyol, resorcin, salicylic acid and nearly every remedy used in dermatologic practice can be incorporated with this. It is applied like an ointment, or spread on with a brush lightly, and on drying gives a plastic, protective film.

Picric acid has been much praised of late, used in a saturated solution, pure or somewhat diluted, painted over acute and subacute eczema. It causes great smarting at first, which ceases, however, in ten or fifteen minutes, giving place to a sense of relief.

Permanganate of potassium, in a 2 or 3 per cent. watery solution, painted over the parts and allowed to dry on, is also a valuable antipruritic, as pointed out by the present writer some years ago.

Treatment of Syphilis.—This has been the subject of much consideration of late years, and really very diverse views may be found given by reliable observers, but mercury is still the acknowledged remedy, with iodin as an adjuvant. The question is repeatedly discussed as to the date of beginning mercurial treatment, and the duration and regularity of medication, and while some argue for only symptomatic treatment, on the recurrence of specific lesions, the weight of judgment seems still to be in favor of early measures as soon as the diagnosis is definitely established, and prolonged treatment, even to three to five years, with occasional breaks.

The hypodermic injection of various preparations of mercury has had very strong advocates during the past few years, and thousands of injections in hundreds of patients are reported with favorable results, and this both in the early and late stages of the disease. Its advantages are that: 1, it is an active remedy which can be regulated perfectly; 2, it avoids disturbing the digestive tract; 3, it avoids publicity in using remedies; 4, it is sometimes surprisingly curative when other measures have seemed ineffective. Its disadvantages are mainly the pain and occasional inflammation and abscess. Each of the different preparations of mercury for hypodermic medication has its advocates, and the bichlorid, calomel, "grey oil," and salicylate of mercury are about equally supported by testimony.

A somewhat new method of applying mercury through the skin has been introduced by Welander, and is worth mentioning. Acting on the idea that a certain amount of the good effect in mercurial inunction arises from the inhalation of vaporized mercury, he has devised a method by which it is worn next the skin on the chest. This is in the form of a bag fifteen by twenty inches in size, which is worn like a chest protector. On the inner side about a dram of mercurial ointment is applied every day. A fresh bag is used every week or so, and the patient may bathe daily. It is said that absorption of mercury takes place very quickly in this way, with great benefit to syphilitic lesions, which might in-

deed be expected, as it corresponds closely to the method of treating infantile syphilis with mercury on the inner surface of the abdominal band.

A new preparation of iodin, iodalbacid, has been introduced which, given in doses of from 3 to 5 grains daily in capsules, is said to have been very effective in cases of syphilis where iodid of potassium was badly borne.

It would be interesting to continue a consideration of the therapeutic advances in dermatology which are of value to the general physician, but already the proper limits of this address have been overstepped and I must stop. But the subject is not all exhausted and there are many items which properly should be mentioned; and my only hope is that something which has been said may be the means of exciting a more lively interest in the subject of diseases of the skin, and may lead some one to more seriously seek to know and recognize this class of affections and their proper and best therapeutic measures. Dermatology is an inviting, though difficult, field, and there is certainly no short cut to its thorough mastery, but although all can not hope to compass it entirely, a reasonable amount of study and observation, with judgment, will enable the general practitioner to utilize many of the advances which are continually being made in this branch.

In conclusion allow me to say a few words in regard to the Section on Cutaneous Medicine and Surgery, which is a part of this great national organization of medical men. Since the beginning of this Section the effort has been, on the part of the officers, as far at least as I have had anything to do with it, to make it such as would be of value to the general practitioner and to enlist his co-operation, both in the matter of the preparation of papers and attendance. This is not a gathering of specialists in dermatology; indeed, relatively few of the dermatologists of the country have ever attended any of its meetings. The American Dermatological Association is for such, as are also certain local societies. It is true that all the papers presented have not always been such as would greatly interest the general practitioner, nor is this the case in any other of the Sections. And yet, during all these years the skin section has been very poorly attended, and it has been hard to interest the profession in it. I speak of these things both for those now present and for those who may perchance read this later. Those of us who are well versed in the subject should, I think, not introduce too much of the rare and difficult, but rather topics which may be of general interest, and the same in the discussions. I would also have general practitioners present such matters as are of interest or difficult to them that they may be here discussed, and I would also have general practitioners take part in the discussions, even though they may not be able to vie with the specialist in accuracy or freedom of expression. I repeat it, that this Section should be the field where the profession can bring the difficult and knotty problems in dermatology and receive the aid of those perhaps more familiar with the branch.

DISCUSSION.

DR. H. C. YARROW, Washington, D. C.—I was particularly impressed with the remarks concerning the use of medicines by hypodermic injection instead of by the mouth. I have been using, for the last four or five years, in cases of constitutional syphilis, hypodermic injections, and have found sozo-iodol of mercury to answer best. I have used other preparations, but none which gave so little pain. If the part is rendered anesthetic, and care is taken to drive the needle deeply into the tissue, the insertion may be accomplished without pain. Out of hundreds of cases in which I have used this treatment, to the exclusion of materials by the mouth, I have never had a bad symptom or abscess and very few cases in which I have failed to cure the patient. I am very glad to hear this matter mentioned, because if the members of the profession at large knew what great value there is in the hypodermic injection of mercury, according to my experience, they would largely abandon the use of remedies by the mouth. The proper mode is to commence with ¼ gr. and run the amount up according to the idiosyncrasy of the patient. I have given as much as 1.5 gr. at a dose without trouble.

A MEMBER—How often?

DR. YARROW—At the commencement of treatment in the way I have mentioned, it may be given twice or three times a week for several weeks. After perhaps four or five weeks, if the patient is doing well, it may be given only twice, until finally you give one hypodermic injection weekly, then one in two weeks, and so on. I never cease this treatment under two years. Certainly, in my hands, the results have been more gratifying than anything I have ever used.

DR. M. B. HARTZELL, Philadelphia—I wish to refer to the use of quinin in large doses in the treatment of lupus erythematosus. I do not recall who proposed it, but I have used it in a number of cases with good results. I have not cured any patient with it, but I have seen such marked improvement follow promptly on its use that I can not but believe it exercises a beneficial influence on the disease. I do not know any remedy given internally which produces such a beneficial and prompt effect. I have given 25 to 30 grains a day. There has been marked improvement up to a certain point, but later the improvement ceases. One patient told me that while she was taking the quinin, the eruption was held in check, but as soon as she stopped it, it spread.

DR. S. SHERWELL, Brooklyn, N. Y.—There is one point familiar to those reading dermatologic literature, and that is the result of Finsen's method of applying sun-rays, particularly in lupus vulgaris. One who studied the method under Finsen, was a member of his clinic and received unusual privileges, did not report favorably on it, but did on a mode of treating lupus by saturating pointed sticks in the acid nitrate of mercury and carbolic acid and then introducing them, thrusting them into the lupus patches and making a person look a little bit like a hedgehog. They are cut off at or about the surface of the skin, and then a plaster put on to hold them in position. I reach the same favorable results in my experience by curetting the lesions, and then applying still more lightly the nitrate of mercury and carbolic acid. I do not look upon lupus as an incurable disease.

DR. W. R. INGE DALTON, New York City—I desire to add my testimony to what the Chairman has said in reference to the treatment of eczema. I took note of his suggestion four years ago, and he mentioned at that time beta-naphthol, also jaborandi in combination with calomel. I combined all three, but used pilocarpin, the active principle of jaborandi, instead of jaborandi, and found it to be of vast benefit. Two years ago I heard Dr. Bulkley allude to this milk theory of his—one glass before each meal, and, I believe he stated at that time, a glass at bedtime. That mode of diet is simplicity itself, and very commendable, and when the patient follows the directions faithfully, as I have tried it in many cases, the result is very satisfactory.

DR. WILLIAM L. BAUM, Chicago—In the treatment of erythematosus I use applications of arsenic solutions, one-half of 1 per cent. solution of sodium arsenate. With this method, three cases which I have treated in the last five years not only have shown marked improvement, but in two the disease has not shown in the last year and a half. Regarding hypodermic injections in syphilis, I doubt whether anybody has used it more consistently and in a larger number of cases than I have in the last ten years. This treatment is certainly of great value in certain conditions where it is necessary to produce a profound result in a short time. I quite agree that the injections should be intermuscular. As to the necessity for rendering the point of injection anesthetic, with injection of bichlorid, it is not painful; the trouble comes after the patient has had his injection a short time. And there is no necessity for the appearance of abscesses after this injection. It is probably the most satisfactory and most successful in most patients.

DR. M. T. CORLETT, Cleveland, Ohio—I wish to corroborate what was said relative to lupus erythematosus. Last year, in the treatment of this obstinate disease, I followed out that treatment of large doses of quinin. The disease responds

readily to this drug, but to be successful it must be given in large doses. So I have found 30 grains a day necessary to produce marked effects. I have found also that it produces its effects only up to a certain point; I have yet to see a patient entirely cured. I have also found the local application of alcohol, which I have used for the last year or two, gives good results. With these applications I have accomplished better results than before in the treatment of lupus erythematosus. With regard to the treatment of syphilis by hypodermic injection of mercury, I agree with Dr. Baum, using it deeply injected, and I do not think it is applicable to all cases. I do not use it as a routine. The old methods by the mouth or inunctions—which in private practice is objected to by many—are better measures. But there are some cases which require quick treatment, and muscular injection is the best because in a few days one can get a decided effect. In many cases inunctions are not objectionable, and where the patient can be induced to follow out that treatment, it is also of value.

Original Articles.

HYPERACIDITY A CAUSE OF SKIN DISEASES.*

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NEW YORK CITY.

A year ago I wrote: "I have demonstrated to my own satisfaction that some skin affections are due to a nutritive disturbance, a defective degenerative metabolism, owing to which there ensues deficient utilization of nutritive substances conveyed to the tissues; producing a lethargic condition of the skin, an inefficient stimulation of the nerve twigs supplying the sudoriferous glands; that bacterial agencies cause septic and putrefactive changes in the alimentary canal and that inanimate toxins maintain selective affinities for the tissues, exerting their action upon the primordial protoplastic groups of cells. I am inclined more and more to think that the bond which connects the diatheses of the dermatoses with gout, rheumatism, arthritis, diabetes, and asthma, is generated by indiscretion of diet—and hic est mucro thesis meæ": *that the chyme passing in a hyperacid condition from the stomach, through the pylorus, into the second stomach, entails such increased labor upon the duodenum that its contents can not be rendered sufficiently alkaline for physiologic metabolism.*

Here is the starting-point—this acid dyscrasia, as I believe, the inevitable *fons et origo* of the pathologic lesions, which lead certainly to nearly all diseases of the skin, save the contagious exanthemata. The nidus is here furnished for the elaboration of the pabulum upon which the micro-organisms feed and propagate, thereby favoring organic fermentative changes throughout the ileum and large intestine, culminating in stasis of cellular action, cutaneous obstruction, and peripheral atrophy; visceral, cerebral, pulmonary, or cardiac lesions. The hyperacidity also inhibits the functional action of the glands of Lieberkühn and Brunner. The duodenum is the paramount reflex center for the entire intestinal tract; the pancreatic and biliary fluids pour into it; the par vagum connects it closely with the central nervous system; the solar plexus associates it with the sympathetic; the splanchnic, with the filaments of the spinal cord, as well as the thoracic center, and with the plexuses of Auerbach and Meissner—the one of the muscular coat, the other with the mucosa. It is here that iron is absorbed and taken up by the transport cells, combined with albuminous bodies, to be carried into the circulation, and it is the receptacle for an immense amount of blood. These physiologic and anatomic endowments all demonstrate the supreme importance of keeping a watchful supervision, so that the functional action of the duodenum may not be impaired. It is rather coincidental that whenever there are extensive excoriations or lacerations, or burns, involving a large amount of space, there follows ulceration of this organ.

It is contended that the infection caused by bacilli goes from the tonsillar crypts directly into the circulation, but I hold to my theory as being more tenable—it is that the chyle is emulsified while undergoing pancreatic digestion in the alimentary tract, and these minutely-divided products transport the pathogenic germs immediately through the lacteals, without causing infection locally into the vena cava; the lymph of the lymphatic system, with the micro-organism enveloped in the chyle, goes directly through the thoracic duct into the left innominate vein, and from the innominate into the venous circulation, through the right heart to the lungs, setting up infection there, by retarding oxidation, or they pass on with the blood, to find access to the cutaneous system, where, if they find suitable culture-media (the nidus upon which they feed) their deleterious action commences; leading to an aberrant cellular activity, caused by changes in contiguous surrounding fluids, unless the phagocytes succeed in devouring them.

We meet with brilliant clinical results in the treatment of summer diarrhea in children—those cases where the stools emit a characteristic odor, showing albuminoid decomposition or acid fermentation, when we feed them upon a low percentage, pasteurized, highly alkaline fresh milk, *without exhibiting even one grain of medicine.*

There are other etiologic factors, such as the physiological process of reflex irritation, of dentition, hard fecal accumulations, pregnancy, epileptiform convulsions, shock, worms, phimosis, adenoids, etc., causing, temporarily, tendencies to morbid conditions of the skin, but the causa causam—the main etiologic element—I proclaim it boldly, is hyperacidity of the chyle in the duodenum; to this is due many ills to which the skin is heir. I have based my treatment upon this etiologic theory and have met with phenomenal confirmation of its efficacy, in my service at the Metropolitan Hospital, and in private practice, in the various forms of eczema, pemphigus, etc. I prescribe:

R.	Naphthalin	gr. i
	Ipecac	gr. i
	Charcoal	gr. iss
	Calomel	
	Strychnia	
	Pilocarpin	
	Arsenious acid, āā	gr. 1/100

The naphthalin causes antisepsis and inhibits the action of micro-organisms through the ileum and large intestine, thereby arresting organic fermentative changes. The charcoal, besides being a splendid antiseptic, converts the anaerobic condition of putrefaction into compounds which are not destructive to the tissues; the mercury, whether it acts upon the liver or not, destroys the bacterial forms in the duodenum and jejunum and lowers the blood pressure, thereby accelerating capillary circulation, thus favoring digestion and obviating putrefaction; the pilocarpin and ipecac exerting, at the same time, their influences upon the sweat

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glands and lymphatics; and finally the strychnin toning up the vasomotors and the whole cutaneous nervous system. I do not claim that my remedy will kill the pathogenic microbes in every instance, but it *does* limit their morbid energies, and by so doing gains time for the conservative remedial agencies of the organism to perform their normal function. Some pathogenic bacteria, which elaborate toxins, or ptomains in septic or putrefactive conditions, are otherwise entirely innocuous. We can unquestionably lessen their virulent activities by altering the environments of the pathogenic organisms. The stomach must be in proper condition, suitable diet enjoined, otherwise, no matter how specific the remedy may be, if the sympathetic nerve-centers, governing metabolic processes, standing for assimilation, are held in check from ptomain intoxication, no good effects can follow. Obstipation of bowels must in every case be combated, and as uric acid accumulates in the blood, as proved by Horbaczewski and Weintraud—that it is formed wherever living matter exists by the dissimulation of albuminoids—and as Kossel demonstrated, passing through the intermediate stages, nuclein, xanthin to uric acid. I generally follow my tablets by giving sulphate of magnesium, carbonate of lithium, and phosphate of soda in an effervescent form, the next morning.

It is only recently that the term eczema parasiticum has been tentatively admitted to the nomenclature, but not yet added to the classification of dermatology—*causa latet: vis est notissima.*

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DISCUSSION.

DR. W. S. GOTTHEIL, New York City—I am sorry that I did not have a chance to hear the first part of Dr. Dalton's paper. There is a marked tendency now on the part of dermatologists to pay more attention than formerly to the influence of general systemic conditions on their etiology, and it is a tendency in the right direction. The paramount influence of the Vienna school led to the very general acceptance of their ideas of the exclusively local nature and origin of most dermatoses; but that influence seems to be declining, and we are turning more and more to the opinions which have always maintained their ground among the French dermatologists, and are paying more attention to the general systemic condition or diatheses which, in some instances, at least, are the basic facts of their etiologies.

DR. S. SHERWELL, Brooklyn, N. Y.—I am in perfect accord with the general sentiment of the paper, while perhaps not entirely so with the theory of the Doctor, as to the way it is involved. I do most thoroughly believe, however, that the hyperacidity of the blood, caused in my mind by defective assimilation and equally defective metabolism, is at the root, and acts as *fons et origo* of many cutaneous diseases, as notably in eczema and psoriasis, etc. I am glad that there seems to be—the Doctor's paper being one evidence—a reaction against the dogma of a certain school that everything pertaining to skin diseases should be almost entirely regarded as local manifestations and be so treated. I am glad to see that there is more common sense and a larger degree of attention paid to systematic alterations and visceral complications today in general dermatology, diagnostic as well as therapeutic.

DR. L. DUNCAN BULKLEY, New York City—I have long maintained that we are wrong in looking so wholly, as has been done in time past by many, for purely local causes for skin diseases. Perhaps some will remember that in my paper yesterday I quoted Dr. George Elliot, who, five or ten years ago, was almost a pure localist, very full of foreign views, and very strong in his advocacy of purely local causes, and last year he expressed the opinion that the causes of pustular lesions were more sympathetic than local. The Doctor is getting nearer the truth when he calls attention to hyperacidity—another name for the "gouty state," etc.—and we will have greater success if we take into consideration internal conditions. Each one of these remedies named by Dr. Dalton has certain qualities, which combined will accomplish what he claims. The prescription offered is a valuable suggestion.

DR. W. R. INGE DALTON, New York City—Each and every article in that prescription has been thought out from what has been said by eminent dermatologists. I have been giving that remedy for the last three years, and in 162 tabulated cases of eczema, acne, pruritus and pemphigus, taking together all the cases I have had in my own practice, and in my service in the Metropolitan Hospital and Dispensary, in all these cases I have not had one single failure. Dr. Sherwell has asked me if I employ topical applications. I use them in every case, such as zinc stearates, with carbolic acid or salicylic acid or menthol, to allay itching, in eczemas, with appropriate dressings; also in all forms of dermatitis, but I do not rely upon them as formerly, only as a palliative to relieve distressing symptoms.

ACUTE SUPPURATIVE FOLLICULITIS OF THE SCALP.*

WM. S. GOTTHEIL, M.D.
NEW YORK CITY.

The inflammatory affections of the hair follicles are still, it must be admitted, an unsatisfactory chapter in our dermatologic text-books. Some hardly mention them at all; and those who do practically admit, with James Nevins Hyde, that "there exists a whole series of interesting and important inflammatory affections of the hairy parts which have not as yet been distinctly differentiated from each other, or the whole series from all others."

Periodical literature, on the other hand, contains the records of many cases of follicular inflammation of the scalp; and the great variety in their terminology is a good index of the confusion that still prevails upon the subject. Quinquaud has described a "Folliculite Déstructive"; Brocq a "Folliculite et Perifolliculite Décalvant"; Besnier an "Alopécie Cicatrisante Innominée"; Lailler an "Acne Décalvante"; Leloir an "Conglomerate Pustular Perifolliculitis"; Unna an "Ulerytnema Sycosiforme"; Sack a "Dermatitis Perifollicularis Atrophicans"; Lukasiewicz a "Folliculitis Exulcerans"; and Tommasoli a "Bacillogenous Sycosis." And this by no means exhausts the list. The American cases of follicular inflammation have been recorded by Fox, Holsten, Jackson and others.

There can be no doubt that several distinct affections characterized by follicular or perifollicular inflammation of the glandular structures of the scalp, and leading, with or without suppuration, to loss of hair and atrophic changes, are included in this list. The analysis and classification of these cases is a task that must await a wider experience and more exact records. Certain prominent characteristics are, however, noticeable in almost all of them. They are chronic, with a duration extending over months and years; they affect localized or isolated areas of the hairy skin; and they are rarely frankly suppurative, the inflammatory process being subacute, and the resultant atrophy interstitial in character.

If I now venture to add another to the recorded cases it is because it presents a clinical picture of a folliculitis of extreme acuity, pyogenic in character, universal in distribution, causing complete loss of hair, and not resulting in atrophy of the pilous structures. In the literature accessible to me I find mention in but two instances of a similar affection. R. Sabouraud,[1] under the designation of "Impetigo Pustulosa Peripilaris," describes an affection which he believes to be identical with the "Impetigo Pustulosa" which Boeckhart first recorded in 1887. It occurs usually upon the head, and always in connection with the hair. It begins

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1. Annales de Dermatologie et de Syphilographie for 1899.

with peripilar abscesses, of which there may be hundreds, which never get bigger than a pea, and never become confluent. They form rapidly, many appearing in a single night. The only premonitory symptom is a painful swelling of the cervical glands. Sabouraud believes the affection to be intimately related to acne suppurativa and necrotica, folliculitis, furunculosis, etc.

At the London Dermatological Society, June 9, 1899, J. J. Pringle showed a case in a 16-year-old boy having an eruption of the scalp beginning as red macules. In six weeks, in spite of treatment, the scalp was covered with crusts and scabs, removal of which showed every follicle to be the seat of an acute suppurative process, and the process resulted in the formation of deep scars. Each hair sat in the center of a yellow pustule. It looked like favus, said Pringle, yet examination revealed only the presence of numerous heaps of staphylococci. Crocker was of the opinion that the affection was a form of the dermatitis papillaris capillitii of Kaposi.

Of the two cases on which this paper is based, one only could be observed with sufficient care and for the requisite length of time. The first one was in a child of 2 years, and was apparently similar in all respects to the case recorded below. But the patient disappeared after a few visits to the clinic, and the history is too incomplete for recitation here. The second case was under observation for nearly a year, until long after all traces of the malady had disappeared and the parts had returned to a normal condition.

Lena G., a Russian, aged 16, came to the clinic on Feb. 18, 1899. She was apparently in good health, and had menstruated regularly for two years, up to three months from this date; after which time, without evident cause, she had been amenorrheic. She was a well-developed brunette with an abundant growth of thick black hair upon her scalp. Her past history was almost negative. So far as the surface of her body, other than the scalp was concerned, the only abnormality was the presence of a scar upon the left loin, the result of a burn received in childhood. This lesion was in perfectly normal condition; but the patient claimed that it was occasionally irritated and made sore by the pressure of the corsets that she wore.

Some three weeks before her appearance at the clinic the first lesion upon the scalp appeared, in the form of a painful little blister in the hair, near the forehead. At first pinhead sized, it gradually got larger and purulent. It finally ruptured and, when the crust that ensued came away, it carried off the hair shafts with it. So entirely painless were the later stages of the process that the patient did not know that the hair had fallen out until she accidentally discovered the red bald spot in the looking-glass. Immediately thereafter a few other small blisters appeared on the back of the scalp. They were hard and painful at first, like the primary one, so that the patient could not lay with the back of her head upon the pillow at night.

Dr. George Lesser, who referred the patient to me, first saw her at that time. There was then a red, depressed, bean-sized and tender cicatricial area near the frontal margin of the hair, and a number of very tender and indurated lesions on the back of the head, over which the hair was matted together with secretion. Treatment with various applications did not stop the progress of the affection. New nodules appeared, especially upon the vertex, all of which became suppurative, until they numbered several dozen. As it was impossible to treat the scalp effectively in the condition in which it was in, and the patient refused to have her hair cut off, she was sent to a well-known dermatologist for diagnosis and treatment. The diagnosis made was evidently pediculosis, for she was given an application to use for twenty-four hours, with the warning not to go near the fire or a light while employing it; and inquiry elicited the fact that it was the ordinary kerosene, vaselin and olive-oil application, with a little balsam of Peru, commonly employed in that affection.

This application the patient used for one day, and she claims that it burned her so terribly that she lay awake screaming with pain the whole night. Emollient applications were then ordered by the attending physician, and continued for some days with a certain amount of relief. But few nodules appeared continually upon the scalp; and as the older crusts became detached they carried away the hair entangled in them, without pain. The patient began to feel very badly; she was feverish, her sleep was disturbed, and she lost her appetite. The only way in which she could rest in bed was laying prone upon her face.

On February 21 I carefully examined her. She looked pale, depressed, and anxious. Her head was covered with an abundant growth of long, bushy, coarse black hair. Near the scalp the hair was matted firmly together and attached by dried secretion, ointment, etc. There were no traces of pediculi or

Fig. 1.—Folliculitis of scalp.

their ova. Scattered all over the scalp were numerous pea to quarter-dollar-sized, reddened, slightly depressed bald spots, very tender to the touch. Between these atrophic areas the scalp was mostly hidden by the crusts; but in the few places where it was still visible it was covered with isolated minute red papules, papulo-pustules, and pustules, each of which was pierced in its center by a hair. Removal of the crusts was excessively painful; all the hair of the affected area came away with them when it was done, and a vividly red, moist depression remained behind. The entire scalp was edematous, and excessively tender to the touch. The cervical lymphatic glands were moderately swollen. She was ordered to thoroughly soak the head with a 2 per cent. solution of salicylic acid in olive-oil, and then to attempt, with soap and warm water and careful combing, to remove the crusts.

On February 23 I noted that there was but slight improvement. The patient claimed that it was impossible to remove the crusts on account of the pain. Several of the larger areas from which the crusts had fallen were swollen and edematous,

and in two or three of them fairly large subcutaneous pus accumulations were found and opened.

On February 26 suppuration was progressing actively under the crusts, and a number of new and larger pus collections had to be opened. She was directed to cut off her hair close to the scalp.

On March 1 I noted that thick masses of crusts containing short hair still covered most of the scalp, the entire area of which had been or was then affected. Removal of these was still excessively painful; the surface of the scalp thereafter being as above described. Even in masses that were perfectly soft every hair came out bodily with the crusts; apparently these latter were entirely detached from the papillæ over the scalp, and it was only the removal of the crusts that caused pain. The scalp was now studded with bald areas, some of them quite large from the coalescence of smaller ones. Few new

Fig. 2.—Folliculitis of scalp.

pustules had appeared recently, probably because every hair follicle had been or was affected. At this time the accompanying photograph (Fig. 1) was taken.

Several careful microscopic examinations of the hairs and crusts had been made during the two weeks preceding. The hair shafts were normal, not frayed, and contained no fungus. The crusts and scales consisted of masses of epithelium and fat, with detritus and bacteria, but neither mycelium nor spores. The patient refused the proposition to have the crusts removed and the scalp thoroughly cleansed under anesthesia. She was directed to continue the daily washings with soap and warm water, and to keep cloths thoroughly soaked with carron-oil continuously on the scalp.

On March 18 I noted that I had seen the patient a number of times since the last preceding record, and her condition had not improved. She looked badly, her appetite was greatly impaired, sleep was disturbed, and she was losing flesh rapidly. New pustules had occasionally appeared, pus infiltrations had to be opened and many of the older crusts had fallen off. Her scalp was apparently two-thirds denuded of hair; the bald areas were still reddened, swollen and tender, but a little less so than formerly. What hair still remained was matted down in smaller isolated bundles. Removal of crusts was a little easier, and the skin below less reddened and moist. In some of the older denuded areas a few new minute pustules were visible, not demonstrably connected with the hairs. They were beginning to whiten, and minute examination showed that fine lanugo hair was springing up over them. A few abscesses were opened, and a 3 per cent. xeroform oil applied to the scalp.

March 31 a new crop of pustules had developed over the entire occipito-cervical region, where the process had run its course, and lanugo hair was reappearing. Each papule was discrete, and pierced in its center by a hair. This gave me an excellent opportunity to study the process from the beginning. The pustles grew to small, French-pea size, and finally ruptured, extruding the hair. There was no crusting or pus collection on account of the smallness of the pilous structures and the absence of matting. The process in each case lasted about a week.

On April 14 I noted that most of the crusts were gone. No new lesions had appeared, and the older denuded areas were whitening, and covered with pale, fluffy lanugo hair. The patient claims that the xeroform oil had given her more relief than any of the other applications. For the first time in many weeks she was able to sleep in the ordinary position. She rested better, and her appetite was improving.

I saw the patient from time to time for three months thereafter. No new lesions developed. Every single one of her original hairs came out as the crusts were finally removed. The lanugo hair had increased in amount and strength, and was beginning to assume the appearance of ordinary hair.

In December, 1899, this last photograph was taken. As can be seen, there has been complete recovery. The only difference is that the new hair is a little finer and lighter than the old.

I can find no better designation for the affection than that of acute suppurative folliculitis of the scalp. I am not ready to propose an explanation of its cause. It is possible that the kerosene application had some effects upon its spread; but the folliculitis began and was quite extensive before it was employed, and the subsequent recrudescence of the disease upon the back of the head occurred entirely independently. The acuity and generalization of the process, and its superficiality, as shown by the fact that, though all the follicles were affected and all the hair detached, the papillæ were not destroyed, presents a picture differing essentially from the ordinary forms of folliculitis, and resembling only the two cases of which I have made brief mention in the early part of this paper.

GLASGOW'S SMALLPOX.—*The Lancet* of March 9 editorally considers Glasgow's smallpox predicament, for in no month has she been entirely free from the disease since its introduction there by a sailor about a year ago. Primary vaccination is well attended to, but there is absence of all official supervision and "grave reason to fear that one mark and two mark vaccination is much commoner than it ought to be." Therefore, revaccination is being advocated by the corporation and every medical man is being remunera[illegible] for all vaccinations performed on behalf of [illegible] sanitary authority. Before this was done the people did not realize the dangers and few took precautions to protect themselves. The consequent increase of smallpox was followed by an increase of vaccinations, so that now, in a population of about 700,000, about 300,000 have been recently revaccinated.

OPERATIONS FOR INJURIES TO THE MEDIAN AND ULNAR NERVES.*

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CHICAGO.

It is my intention to discuss the subject entirely from its practical standpoint and to relate my personal experiences in dealing with the injuries of the median and ulnar nerves. These nerve trunks are most liable to be injured because of their exposed anatomic position on the arm; the most frequent result of violence applied directly to the nerve is complete division.

Functional disturbances following incised or lacerated wounds are too often overlooked and the symptoms attributed to shock. The degree of shock in such cases is not proportionate to the size of the wound or to the degree of nerve injury. The pain following the most trifling cut will often cause extreme depression. The injured person, who already is suffering pain and is in a state of nervous expectation and dread of more pain to be caused by the stitching, is thereby frequently placed in a condition of greater shock, which renders his statements relative to sensory and motor disturbances unreliable. Therefore, after direct examination of the open wound, if the least doubt exists, the necessity for a thorough operative exploration can not be overestimated.

The surgeon's duty begins with the thorough examination of every divided structure, especial attention being paid to nerves, and his duty ends only when he has proved his skill by his success, or has shown his failure to be due neither to ignorance nor negligence. The ape-hand deformity which follows wounds of the median nerve and the claw-hand deformity which follows wounds of the ulnar nerve, impress upon the surgeon his responsibility and the necessity for the most painstaking care and deliberation.

CASE. 1.—The patient was a girl 9 years of age, who was brought to me in Paris, Ky., on June 15, 1891. Her general health was poor and the presence of a number of unsightly scars on the neck, with a bad family history, showed that she was a tuberculous subject. For about a month she had complained of an aching pain in the left forearm, so was disinclined to use it.

I found an enlargement the size and shape of a small hen's egg at the junction of the lower and middle thirds of the ulna. With the assistance of Dr. T. A. Roby, I made an incision at this point, evacuated a quantity of pus and, on probing, found the ulna denuded of its periosteum and roughened. I chiseled away the sclerosed shell of bone, cleaned out the entire tuberculous deposit, swabbed the cavity with Churchill's tincture of iodin, and packed the wound with iodoform gauze, that it might heal by granulation from the bottom. The wound was dressed every other day for two weeks, when I was obliged to leave Paris and, after that time, my father, Dr. D. D. Eads, dressed the wound regularly until it had entirely healed.

In January, 1892, I revisited Paris and, to my surprise, was informed that, at the time of the operation, I had divided the ulnar nerve. I found the muscles markedly degenerated and complete abolition of sensation in the territory supplied by the ulnar nerve. As I believed that the nerve had been divided, I decided to make a new operation to reunite it if possible. I accordingly made an incision three inches in length directly over the ulnar nerve and found it embedded in a mass of cicatricial tissue. The incision was now extended upward and downward for five inches and the ulnar nerve dissected from its position. As I found it had not been severed I made a new bed for it by stitching a layer of loose fascia over it.

The patient noticed improvement as soon as she awakened from the anesthesia and stated that she could now feel her little finger. She rapidly improved without any further treatment and recovered with complete restoration of function.

This case is of marked interest, because: 1. The child was too young to give an accurate account of the loss of sensation and power, which was accidentally detected by the difference in size of her hands and forearms. 2. The loss of both sensation and motion was evidently gradual and not sudden. 3. The presence of cicatricial tissue in the region of the affected nerve, whether of accidental or operative origin, is suspicious and should be considered a probable cause of loss of function in the territory supplied by that nerve. 4. Exploratory operation should be made without delay when doubt exists.

CASE 2.—During my service as resident surgeon in Jefferson Medical College Hospital, in Philadelphia, in 1892, I operated on the following case of injury to the median nerve: A young man about 26 years of age had been wounded by a circular saw. He entered the accident department of the hospital, accompanied by his foreman, whose description of the accident and the amount of hemorrhage which followed caused me to order him taken to the private operating-room, where he was immediately anesthetized. On loosening the provisional tourniquet, copious arterial bleeding ensued, which was promptly arrested by digital compression of the brachial artery. After protecting the wound by several thicknesses of gauze, an Esmarch bandage was applied to the arm from the wrist well above the wound, and examination showed a lacerated wound about two inches in length extending obliquely across the inner antero-lateral aspect of the right arm about an inch and a half above the elbow. I enlarged the wound upward and downward along the course of the brachial artery, which I secured and ligated. The biceps and brachialis anticus muscles were partially divided. The divided median nerve was in plain view with the ends rather ragged. I trimmed off the ragged ends with sharp scissors, the net loss on both ends of the nerve not amounting to more than one-quarter of an inch, and placed the nerve in its natural position in the wound with the ends almost meeting. Accurate approximation was made easily and without tension.

A single transfixion stitch of fine silk was first introduced by means of a fine Hagedorn needle and tied, bringing the nerve ends together. This was reinforced by two silk sutures, one on either side, which were passed only through the sheath of the nerve.

The external wound was closed with catgut, the arm flexed and a large dressing applied. The arm was maintained in a flexed position for eight days, when it was found that the wound had united by first intention.

Paralysis resulted from the accident, with the following symptoms: Loss of pronation; impaired wrist flexion and hand-grasp with thumb extended, and anesthesia over the area supplied by the median nerve.

The first evidence of restoration of function was a return of sensation about three weeks later. Return of mobility was distinctly noticeable two months later, and when I saw the patient six months after the acci-

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dent, he had acquired a fair use of the arm and expected to return to work the following week.

I regard the early and favorable result of this case to be due to the clean wound, and simple division of the nerve with slight destruction of nerve tissue, which permitted accurate approximation within an hour after the accident.

CASE 3.—G. H., 50 years of age, of Philadelphia, while in Atlantic City, N. J., sustained an incised wound of the anterior aspect of the right forearm close to the wrist-joint. The radial and ulnar arteries, the flexor carpi radialis, flexor sublimis digitorum and palmaris longus tendons were divided. There was complete division of the median and almost complete division of the ulnar nerve. The accident was caused by the sharp blade of a knife which lay in the sand where he was sitting. On attempting to rise he pressed his wrist upon this knife blade and thus sustained the injury.

After temporary arrest of the hemorrhage, he hastened to the office of Dr. Boardman Reed. The patient was anesthetized and with the assistance of Drs. Boardman Reed and Ella Reed, I proceeded to tie the radial and ulnar arteries. I enlarged the wound upward and downward and found the divided median nerve with the ends almost approximated. I united the ends with one direct catgut suture passed through the body of the nerve. A second fine catgut suture was passed through the divided portion of the ulnar nerve. The divided tendons were found without difficulty and united with catgut.

The forearm and hand were supported in a flexed position by a suitable splint and so maintained for a period of three weeks. Wound healed by first intention.

Total paralysis and complete anesthesia resulted from the accident in the area supplied by the median nerve, but no appreciable change could be noticed in the area supplied by the partially divided ulnar nerve.

The forearm and hand were well massaged and passive motion of the fingers made to prevent them from becoming stiff.

Three weeks later the patient announced the return of sensibility in the previously insensitive area, but was much troubled because of his inability to approximate the thumb and index finger and thus hold a pen. Evidences of increasing motility rapidly followed. Ten weeks after the accident he was able to write at his desk, using his thumb and fingers with ease. He still complained of some stiffness about the wrist-joint, but expressed confidence that this would soon pass away, as it had greatly improved up to that time.

In this case there was every reason to expect speedy and complete restoration of function, as the nerve ends lay in their normal position in the wound, almost touching, thus permitting accurate approximation. In this instance I used catgut, as silk could not be obtained.

I prefer silk to any other suture material because: 1. Its permanency does not delay the union nor interfere with complete recovery. 2. Better approximation is obtained by silk. This is a most essential feature to early success, and, when tension is great, we can not dispense with it.

Relaxation by position, rest and protection by a suitable splint are conducive to successful union.

The patient was in excellent health at the time of the accident and thereafter. Massage was commenced early to overcome the likelihood of impaired mobility due to inflammatory adhesions of the joint and synovial sheaths. The arm was rubbed daily with alcohol and electricity applied.

CASE 4.—J. H., a male, 34 years of age, consulted me Dec. 4, 1894, and gave the following history: On Feb. 11, 1893, while he was helping to unload a large sheet of plate glass, one of his helpers slipped on the icy pavement and, in the patient's effort to save the glass, he sustained a lacerated wound extending obliquely from before backward along the inner side of the right arm two inches above the elbow-joint. Profuse hemorrhage followed. He was taken to the nearest surgeon—a man of good reputation—who ligated the bleeding vessel, and closed the wound, which healed promptly. At his next visit to the surgeon he complained that his hand felt numb, that he could not close it and thought that some of the "cords" had been cut.

When he consulted me, the appearance of the arm and forearm was characteristic of complete paralysis of the ulnar nerve. The muscles of the forearm supplied by the ulnar nerve were atrophied, there was marked wasting of the hypothenar eminence and hollowing of the thenar eminence. Partial flexion of the last two phalanges of the ring and little finger and extension of the first phalanges of the same fingers completed the deformity. I instructed him to grasp my index finger, which he accomplished with difficulty by first flexing the last two phalanges of all the fingers. This forced attempt caused flexion of the wrist-joint, which brought the finger more into his grasp. In the act of flexion the last two fingers did not participate as promptly as the fore and middle, and separation and approximation of the fingers could not be accomplished.

Partial anesthesia followed the division of the nerve, but sensation had returned to an appreciable extent two months after the accident, so that at the time of my examination the only area which appeared partially anesthetic was that along the ulnar side of the hypothenar eminence, and little finger.

Arrangements were made for operation at the patient's house, and, assisted by his family physician, the late Dr. Hunt, I made an incision three inches in length directly over the ulnar nerve and at right angles to the old scar, which marked the center of my incision. Upon reaching the deep fascia, I incised it on a grooved director as a guide and thus exposed the internal intermuscular septum, which was in turn divided in a similar manner bringing into view the severed interior profunda artery which, together with the triceps muscle, served as my guide in locating the ulnar nerve. I lengthened the incision in an upward direction for about two inches, found the ulnar nerve, traced it downward and found the upper bulbous end embedded in a mass of scar tissue which I carefully dissected away, exposing the nerve for nearly three inches. The distal end was also dissected from its bed of scar tissue.

Repeated sections were made of the proximal portion, with sharp scissors, before I reached healthy nerve fibrillæ, the loss amounting in all to about three-quarters of an inch. One-quarter of an inch was removed from the distal end in a similar manner. This left a decided gap from loss of substance. An attempt was then made to approximate the ends by stretching and by position of the arm, but this was unsuccessful. A flap three-quarters of an inch in length was taken from the proximal portion to bridge the gap, and was united to the distal portion by one transfixion stitch of silk reinforced by one anterior and one posterior stitch. The arm was dressed in extension and healed primarily.

A month after the operation the patient went to

Denver to live with a sister on account of his disability, and consequent inability to work, but on April 17, 1895, four months after the operation, he wrote me that he was driving a milk wagon, was able to take entire charge of a milk route, that he could close his fingers against one another, and also bring them down to the palm of his hand with considerable force. Although I have not heard from him since, I judge from this statement that in this case the operation is rapidly proving successful.

CASE 5.—T. D., a boy 12 years of age, was brought to me on Sept. 18, 1897, with a lacerated wound of the right elbow-joint, caused by falling on a broken bottle. The wound extended from the outer border of the shaft of the ulna obliquely upward and inward over the posterior surface of the joint to the internal condyloid ridge one inch above the condyle.

During the delay entailed in finding the boy's father to inform him of the gravity of the accident, I obtained a clear account of the division of the ulnar nerve as manifested by its immediate effects. I asked the boy if his arm pained him, and his reply was: "No, but there is such a funny feeling all along here"—referring to the inner side of the forearm and fingers—"it feels like it's dead." Extending my index finger, I directed him to grasp it. He was unable to do so and cried out that he could never play ball again.

The patient was anesthetized and, with the assistance of Dr. J. H. Walsh, I made an examination and found the olecranon process separated from the ulna and the internal condyle from the humerus. In order to obtain a better view of the joint and its surroundings, I enlarged the wound by incisions upward and downward and dissected the superficial fascia from its deeper attachments, retracted the flap and by flexion exposed the entire elbow-joint. In order to facilitate adjustment and prevent lateral displacement, I united the olecranon process to the ulna by two silver-wire sutures and the internal condyle to the humerus by one suture of the same material. The proximal extremity of the divided nerve was found one inch above the inner condyle and the distal portion retracted for more than an inch. The ends were easily brought in good apposition by a single chromicized catgut suture passed directly through the body of the nerve, reinforced by a fine silk suture passed through the sheath on either side.

With scissors and tissue forceps I now went repeatedly over every portion of the wound most carefully, clipping the ragged tissue with its adherent foreign bodies. Sterile water was used exclusively, with the exception of hot saline solution which was employed to remove the blood clots. The complete cleanliness, perfect hemostasis and avoidance of antiseptics made me decide to close the wound with catgut sutures and without drainage. A large dressing was applied and the arm rendered immobile by a suitable splint.

With the exception of a post-operative rise to 101 degrees on the evening of the second day, the temperature remained normal throughout. The wound was exposed on the seventh day and found to be entirely healed by first intention. The arm was retained in position for one month when, much to my surprise, the patient exhibited a fair degree of movement of the elbow-joint and of the ring and little fingers. In closing the hand he could not bring any of the finger tips in contact with the palm, but a few days later he accomplished this with ease with the exception of the little finger, which required an effort to bend to this extent. Separation and approximation of the fingers were unimpaired. More than a month after the accident a point of tenderness developed over the internal condyle and this went on to suppuration, which ceased, however, shortly after the removal of the silver wire suture.

Massage and active and passive movements were patiently continued for two months. At this time there was but slight difference in the strength of the grip in favor of the right hand.

This case teaches: 1. That next in importance to accurate apposition in case of divided nerves is the avoidance of inflammation or suppuration by cleanliness, hemostasis and irrigation with sterilized water. 2. Antisepsis must yield to asepsis when a joint is opened. 3. Buried silver-wire sutures will cause irritation even in an aseptic wound, and since this experience the writer has substituted chromicized catgut, which he considers preferable and has found sufficiently durable. 4. Immobilization in extended position lessens tension.

TECHNIQUE OF THE OPERATION.

Antisepsis can be secured only by the use of the brush, soap and water, permanganate of potash, oxalic acid and sterilized water. My unpublished experiments in the laboratory of Dr. W. M. L. Coplin, of Philadelphia, in December, 1891, proved conclusively the uselessness—from a practical standpoint—as antiseptics, of bichlorid of mercury, boric acid, carbolic acid, creolin, etc. Permanganate of potash stands alone as the ideal destroyer of germs. The skin of both operator and patient marks the line between antisepsis and asepsis.

The first and leading requisite in nerve suture is an accurate knowledge of the regional anatomy of the part. The surgeon needs every guide to render the finding of the divided nerve ends more easy. The ends may be displaced, retracted, adherent to fascia or tendons, etc., or embedded in scar tissue. When difficulty is experienced in finding the nerve at the seat of the original wound, it should be found in its known position and traced to the point of division. This procedure materially simplifies the operation and involves only a lengthening of the incision. The upper central portion of a divided nerve is enlarged, bulbous and easily found, while the lower or peripheral portion is filamentous and more difficult to discover.

A second requisite is the provision of ample operating space, and a long incision does not add appreciably to the gravity of the operation.

The Esmarch bandage should be dispensed with wherever possible, as its removal is followed by oozing which necessitates drainage, and as it prevents stretching of the nerve, thus rendering the nerve ends more liable to injury by the forceps in the hand of the operator. Slowly and precisely we proceed to find the nerve ends and free them from their imprisonment in scar tissue or their attachments to tendons and fasciæ.

The dissector—a cut of which is here given—has been invaluable to the writer in his operative work and doubtless will prove serviceable to the general surgeon. This instrument combines the advantages of a director, dissector and scalpel handle. It is made from a single piece of metal, 6¼ inches in length, consisting of a central portion, the handle and two extremities, one of which is hook-shaped and fenestrated near the end, and the other, slightly curved and blade-shaped, has

Date.	Operator.	Nerve.	Nature and Location of Lesion.	Time of Suture.	Suture Material.	Result.
1863	Nélaton	Median	Extirpation, neuroma	Immediate	Silk	Motion normal after 2 years.
1864	Langier	"	Injury, forearm.	"	"	Restoration of sensation after 17 months.
1870	Huter	Ulnar	Resection, elbow	"	"	Has no use of hand, but after 10 years has slight sensation at wrist.
1871	Jessup	"	Injury, wrist	9 years	"	Hand useful after 8 months; some atrophy of muscles.
1875	Notta	Median	Extirpation, neuroma	Immediate	Silver	Sensation and motion restored after 8 mos.
1875	Simon	" and ulnar	Stab wound, arm	10 months	Silk and catgut	Arm useful after 18 months.
1875	Vogt	"	Injury, wrist	Immediate	Catgut	Restoration of motion after 8 months.
1879	Koenig	"		"		Partial restoration; atrophy after 15 mos.
1879	Koenig	"		"		Atrophy after 2 mo.; some mobility of thumb.
1879	Page	"		"		Complete restoration of motion after 10 months; slight restoration of sensation.
1879	Wilins	Ulnar	Injury, resect, elbow	"		Marked improvement after 10 months.
1879	Tillmanns	"	Incised w'nd, forearm	"	Catgut	Useful hand after 19 months.
1879	Thiersch	Median and ulnar	Glass wound, forearm	"	"	Normal hand; slight atrophy after 2 years.
1880	v. Esmarch	Median, ulnar and musc.-cutaneo's.	Stab wound, arm	"	"	No result after 13 years.
1880	Kraussold	Median, ulnar and radial.	Incised wound, wrist	"	"	Free use of hand after 3.5 months.
1880	Kraussold	Median.	Inc'd w'd, above wrist	2 months	Silk and catgut	Mobility normal after 3 weeks.
1881	Bernhardt and Friebel	Ulnar	" " " "	6 months	Catgut	Complete restoration of function after 8 mos.
1881	Page	"	" " " "	6 months	"	Normal after 18 months except atrophy of little finger.
1882	Koenig	Ulnar	Injury, arm	1 year		Arm fit for any work after 1 year; disturbance of sensibility of little finger.
1882	Zesas	"	Glass wound, wrist	5.5 months	Catgut	Sensibility almost and motion quite restored after 2 mos.; complete recovery later.
1883	Chrétien	Median	Injury, wrist	Immediate		After 18 mos., contraction of abd. flex brevis pollic. and opponens, equal on both sides.
1884	Tillaux	"	Glass wound, wrist	4 months	Catgut	Complete restoration of sensation and motion after 6 weeks.
1884	Tillaux	"	" " "	14 years	"	Complete restoration of functi'n after 6 wks.
1884	Banks	"	Injury, wrist	6 months	"	Complete restoration of function; some atrophy of first 3 fingers.
1884	v. Wahl	Median, ulnar and radial	Injury, axilla	Immediate	Silk	Partial restoration of function after 4 years. Sensation good after 2 weeks.
1885	Shepherd	Ulnar	Axe wound, elbow	3 months	Catgut	Complete restoration of funct'n after 6 mos.
1885	Gunn	"	Extirpation, neuroma	Immediate	To med. wtih catgut.	Sensibility on ulnar side of ring finger, but after 8 m. not on little finger or end phal.
1885	v. Wahl	Median	Injury, axilla	"	Silk	Contraction of muscles of forearm normal after 3.25 years; hand useful as other.
1885	Jones	Ulnar	Fracture, int. condyle	Secondary		Rapid restoration of sensory functions.
1885	Schüller	Median	Glass wound	18 months		Partial restoration of motor functions after 6 weeks; complete restoration.
1885	Richardson	"	" "	1 month	Catgut	Restoration of sensory and motor functions after 1 year.
1885	Richardson	"	Stab wound.	80 days	"	Restoration of sensory and motor functions after 4 months.
1885	Pollaillon	Median and ulnar	Glass wound, forearm	Immediate	"	Partial restoration sensory of palm, flexion and extension only of the finger, atrophy of small muscles of thumb 2 years after.
1886	Tillmanns	" " "	Wound, forearm	Secondary	"	Restoration of normal function after 1 year.
1885	Pye	Ulnar	Glass wound oi wrist	Several weeks.		No improvement after 15 months Relief of nerve from constricting cicatrix after one-fourth year. Complete recovery.
1886	Tillaux	Median	Injury of wrist	3.5 years		Complete restoration after several months.
1888	v. Wahl	"	Injury, arm.	Immediate	Silk	No improvement of motor function and atrophy after 7 months.
1888	v. Wahl	Median, ulnar, radial, etc.	Injury, axilla.	"	"	Restoration of sensibility of forearm; no result in territory supplied by median and ulnar after 9 months.
1888	Rayner	Median		4 months		Restoration of sensibility in short time; complete motor restoration after 1 year.
1891	v. Esmarch	"	Incised wound, wrist	Immediate	Catgut	Restoration of motor function after 2 years; atrophy of palmar muscles.
1886	Jencken	Ulnar	Incised w'nd, forearm	6 months	Horsehair	Complete recovery after 18 months.
1884	Harrison	Median and ulnar	Glass wound, wrist	18 months.	Catgut	Useful hand; limited flexion of 1st, 2d and 3d fingers; sensibility restored except to little finger after 18 months.
1886	Scott	Ulnar	" " "	4.5 months	"	Marked improvement after 4 months.
1886	Scott	Median	" " "	10 months	"	Restoration of sensory function after 3 wks.
1880	Hulke	"	" " forearm	5 weeks	"	Restoration of function after 4 weeks.
1880	Ogston	Ulnar				Restorat'n of sens., not of mot'n, after 2 mos.
1879	Hulke	"	Slate wound, elbow	15 months	Silk	Restoration of function after 6 wks.; returned to work on leaving hospital.
1884	Surmay	Median	Glass wound, r. wrist	5 months	Silver and catgut	Rapid restoration of function after 11 days; complete after 4 months
1887	Tillaux	"	" " r. hand.	3.5 years	Horsehair	Rapid restoration of sensation after operation; complete in 6 weeks.
1887	Bland-Sutton	"	" " r. wrist	10 weeks		Beginning sensation after 5 days.
1886	Bouisson	"	Wound forearm	Immediate		Par. restor'n. of sens. and motion after 3 wks.
1886	Schwartz	"	Incised wound, wrist	6 hours	Catgut	No restoration of sensation after 4 weeks.
1881	Page, H. W.	Ulnar	Glass wound, l. wrist	6 months	"	Anesthesia less marked after 9 days.; complete restoration after 6 months.
	MacCormac	"	Glass wound, forearm	6 years.	"	Increased sensation in fingers after 1 day; can use hand quite well after 2 weeks.
1887	MacCormac	"	Gunshot w'd, forearm	1 month	Silk	Partial restoration of sensation after 2 wks.
1886	MacCormac	Median	Neuroma	5 years.	"	Perfect sensation and motion after 1 mo.
1881	Langton	Ulnar	Incised w'nd, forearm	Immediate	atgut	No return of sensation after 3 weeks.
	Langton	"	Release from cicatrix		Horsehair and catgut	Function restored after 6 months
	Halsted	Median and ulnar	Glass wound, arm	8 months		No benefit after 6 months.
1883	Bull	Ulnar		7 weeks	Catgut	Returning sensation and motion after 5 wks.
1897	Rafin	Ulnar	Glass wound, forearm	1 day	Chromicized catgut	No improvement after 2 weeks; perfect restoration of function after 5 mos.
1897	Curtis	Median	Punctured w'd, wrist	7 months	atgut	
1893	Ochsner	" and ulnar	Glass wound, wrist	3 months	"	Sensation began to return after 10 dy; perfect restoration of function after 3 years.
1893	Ochsner	Ulnar	Gunshot wound, arm	10 days	"	Slight sens. in 3 wk; par. restoration in 3 yr.
1895	Ochsner	"	Stab wound, arm	4 months	"	Almost complete sensation after 21 hours; complete restoration of function after 1 yr.
1895	Ochsner	"	Stab wound, forearm	6 weeks	"	Immediate return of sensation; still slight atrophy, but improving, after 1 year.
	Bowlby	"		7 months		
	Bowlby	Median	Wound, forearm	9 months		
1884	Menzies	"	Glass wound, wrist	Immediate	Catgut	Return of sensation after 1 day; perfect recovery after 7 months.
1893	Berger	Ulnar	" " forearm	4 months	Silk	Almost immediate return of sensation.
1888	Ashhurst	Median	Knife wound, wrist	11 months	Catgut	Improvement after 5 weeks.
1887	Reclus-Segoud	" and ulnar	Glass wound, wrist	2 hours		Immediate return of sensation; atrophy of muscles.

a single longitudinal groove in the center. The latter is used for the isolation of structures located in tissue which can be pushed aside, thus avoiding hemorrhage and keeping the field of operation dry. This is especially valuable in breaking down adhesions and in the exposure of important vessels and nerves. The single groove serves as a guide for the back of the knife in making the incision, and takes the place of the grooved director. Therefore this extremity may be regarded as a combined grooved director and separator of tissues. When greater force is required in dissection, the hook-shaped extremity is brought into use. The eye acts as a ligature carrier; the blunt extremity of the hook, which can not be forced through the wall of the blood-vessel, makes it a convenient aneurysm needle.

The nerve ends are freshened ready for accurate approximation, which is assisted by position and, if necessary, by stretching of the nerve trunk. An ordinary cambric needle carrying a single, direct suture of chromicized catgut is passed through the nerve on each side, from one-eighth to one-quarter of an inch from its extremities, and tied, but not too tightly, as accurate approximation is easily defeated by displacement due to overlapping. Two or more fine silk sutures are now passed through the sheath of the nerve, to more accurately complete the approximation and to increase the strength of the union. In tying these sutures, great care must be taken to prevent the sheath from being folded in between the nerve ends. If, after approximation, there is too great tension and consequent liability of the sutures to cut out, I would recommend that a relaxation suture of chromicized catgut be passed in an antero-posterior direction through the substance of the nerve above the first suture.

Restoration of function is often delayed and this delay is proportionate to the degree of degeneration of the peripheral end, the consequent atrophy of muscle and fixity of joints. These very symptoms, however, may result from a widespread septic inflammation complicating the original wound and causing inflammatory adhesions of joints and tendons with resulting impairment of mobility. (Rose.)

In the hands of the most careful operator some cases will result in total failure. Fortunately, however, the splendid results in recent years have aroused medical men and dispelled all doubt as to the necessity of the measure. I have obtained from the literature reports of 294 cases, with the following results:

	Successful.	Improved.	Failure.	Total.
Primary suture	40.52% 62	40.52% 62	18.95% 29	153
Secondary suture	43.26% 61	43.26% 61	13.38% 19	141
Total	41.83% 123	41.83% 123	16.33% 48	294

From my own experience, therefore, fortified by the observations of others, I believe we are justified in saying to our patients that, while positive results can not be promised, the great majority of operations are followed by cure, and that in the majority of the remainder improvement takes place after operation. Without operation the tendency is always to grow worse. This is an assurance of hope to the sufferer, and yet its correctness is borne out by our experience.

SUMMARY.

Date.	Name.	Nerve.	Primary. Successf'l No.	Successf'l Per cent.	Partial. No.	Partial. Per cent.	Failure. No.	Failure. Per cent	Total.	Secondary. Successf'l No.	Successf'l Per cent.	Partial. No.	Partial. Per cent.	Failure. No.	Failure. Per cent.	Total.
1887	Bowlby	Median	6	31.6	11	57 9	2	10.5	19	1	16.67	5	83 33			6
		Ulnar	4	26.70	7	46 70	4	26 70	15	2	20	5	50	3	30	10
		Median and ulnar	2	18.18	6	54 54	3	27.27	11			1				1
	Literature to 1885	Median								3	27.27	5	45 45	3	27.27	11
		Ulnar								5	55 56	1	11.11	3	33.33	9
		Median and ulnar								1	16 67	2	33.33	3	50	6
		Median and radial										1				1
1896	Huber	Median	15	57.69	7	26.92	4	15.38	26	8	42 10	9	47.37	2	10.53	19
		Ulnar	12	38.71	13	41 94	6	19.35	31	7	29 17	15	62 50	2	8.33	24
		Median and ulnar	3	23.07	7	53.85	3	23.07	13	2	20	6	60	2	20	10
		Median and radial	2						2			1				1
		Median, ulnar and radial	1						1							
		Ulnar and int. cutaneous					1		1							
	Literature by writer	Median	7	46.67	4	26 67	4	26.67	15	14	87.50	2	12.50			16
		Ulnar	4	50	2	25	2	25	9	13	65	7	35			20
		Median and ulnar	1	50	1	50			2	4	66 67	1	16.67	1	16.67	6
		Median, ulnar and radial	1	33.33	2	66 67			3							
		Median, ulnar and musculo-cut	1	33 33	2	66 67			3							
	Writer	Median	1						1							
		Ulnar	1						1	1						1
		Median and ulnar	1						1							
		Total	62	40.52	62	40.52	29	18 95	153	61	43.26	61	43.26	19	13.48	141

CONCLUSIONS.

1. Provision of ample operating space is the first requisite to success.

2. Suppuration is inimical to success and can be prevented by cleanliness, hemostasis and avoidance of chemical irritants and drainage-tubes.

3. Chromicized catgut and fine silk furnish the best suture material. The single transfixion stitch should be of catgut and the two or more perineurotic stitches, of fine silk.

4. Tension may be overcome by position and loss of substance by nerve stretching and bridging by the flap method.

5. Immediate suture of clean nerve ends accurately approximated is conducive to early functional restoration.

6. Relaxation by position, rest and protection by suitable splint are conducive to successful union.

7. Cicatricial compression may be anticipated and the nerve placed out of harm's way.

8. Asepsis in primary, and antisepsis and asepsis in secondary nerve suture should be the practice of to-day. Antiseptics have an irritative and destructive effect

beneath the integument, cause inflammation and render drainage necessary.

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PATHOLOGICAL CONDITIONS FOUND IN MEAT INSPECTION.*

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The more common and important pathological conditions found in meat inspection are no doubt subjects of considerable interest to the members of this Association. These conditions may affect the public health to a certain extent, and they are unquestionably worthy of careful study by the sanitarian as well as the pathologist.

The federal meat-inspection service having been in operation about nine years, has now reached a stage of development and an approach to uniformity of procedure which justifies the expectation that some thought may hereafter be given to the utilization for scientific purposes of its records and of some of the material which is found. While we have not in the past entirely neglected the collection and study of the pathological material, the imperative necessity of organization and of the investigation and control of the more destructive animal plagues has prevented us from using this material to any great extent either for illustrative purposes or for scientific study.

The specimens which are exhibited here are nearly all in a fresh condition and have been preserved by freezing. They are only such as could be collected in a comparatively short time, but they are of special value as showing the natural appearance of the affected meat. To give some idea of the frequency or infrequency of disease in our meat-producing animals, I have taken from our reports some statistics covering the two fiscal years beginning July 1, 1897, and ending June 30, 1899. These statistics are especially valuable on account of the large number of carcasses inspected during that period, and refer entirely to the post-mortem examination.

During the two years mentioned, the number of cattle examined reached a total of 8,831,927. Of these cattle 19,454 entire carcasses and parts of 23,106 additional carcasses were condemned. This means that 22 carcasses in 10,000 were entirely condemned, and that 26 carcasses in 10,000 were partly condemned, making a total of 48 carcasses in 10,000 condemned in whole or in part. Of the 23,106 carcasses parts of which were condemned, 12,641 were affected by bruises or injuries; 7,120 by abscesses; 3,025 by localized actinomycosis; 268 by localized tuberculosis; 11 by tumors; 6 by hydatids and the remainder by circumscribed inflammation of various organs. Of the 19,454 carcasses which were wholly condemned 7015 were affected with tuberculosis; 5172 by actinomycosis; 2530 by anemia, emaciation, etc.; 2227 by bruises and injuries; 598 by septicemia; 384 by pneumonia; 268 by peritonitis; 222 by pyemia; 212 by icterus; 205 by abscesses; 166 by Texas fever; 95 by advanced pregnancy; 90 by enteritis; 44 by cancer; 42 by gangrene; 24 by metritis; 15 by recent parturition; 1 by anthrax, and the remainder—144—mostly by tumors and inflammations of the various organs.

The number of sheep inspected during this period reached 11,110,776. Of these sheep, 8394 carcasses, or 7.5 per 10,000 were wholly condemned and 650 carcasses, or 0.6 per 10,000, were condemned in part. Taking the carcasses of which only parts were condemned and 379, or more than one-half, were affected by bruises and injuries; 132 by abscesses; 91 by hydatids, 41 by the esophagostoma columbianum, the parasite causing the nodular disease of the intestines, 4 by scabies and 3 by tuberculosis. Of the 8394 entire carcasses of mutton condemned, 2345 were affected with anemia and emaciation; 1696 by bruises and injuries; 667 by tuberculosis and pseudo-tuberculosis; 550 by abscesses; 464 by pneumonia; 422 by uremia; 371 by septicemia; 370 by icterus; 256 by pyemia; 204 by pleurisy; 171 by ascites; 154 by scabies; 131 by advanced pregnancy; 118 by hydatids—echinococcus—and the remainder—375—mostly by inflammation of various organs, fever, recent parturition, parasites, tumors and cancer.

The number of hogs slaughtered under inspection during the same period was 44,841,779. Of these hogs 106,555 carcasses were wholly condemned, being about 24 per 10,000, and 58,491, or 13 per 10,000, were condemned in part. Of the carcasses only partially condemned 37,167 were affected by bruises or injuries; 7853 by tumors; 7338 by abscesses; 1971 by hydatids; 1683 by tuberculosis; 1313 by mammitis; 1119 by pleurisy and 47 by actinomycosis. Of the carcasses wholly condemned 85,904 were affected by hog cholera

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and swine plague; 4021 by tuberculosis; 2298 by icterus; 2065 by pyemia; 1847 by abscesses; 1709 by pneumonia; 1570 by advanced pregnancy; 1463 by septicemia; 1294 by bruises and injuries; 1099 by tumors; 1500 by inflammation of organs in the abdominal cavity; 536 by anemia and emaciation; 321 by recent parturition; 267 by fever; 113 by scabies; 43 by actinomycosis; 60 by cysticercus cellulosæ or measles of swine; 23 by hydatids; 9 by cancer. The remaining 313 were for the most part affected by skin diseases, gangrene and inflammation of various organs. There has not been included in this statement the condemnations for trichinæ infestation, since pork for the domestic markets is not examined microscopically.

The proportion of condemnations for the different varieties of animals per 10,000 slaughtered is shown by the following table:

	Cattle.	Sheep.	Swine.
Whole carcasses, per 10,000	22	7.5	24
Parts of carcasses, per 10,000	26	0.6	13
Total	48	8.1	37

In general terms it may be said that the proportion of condemnations with cattle and swine correspond quite closely, while with sheep it drops almost to one-fifth of the figures for swine and one-sixth of those for cattle. The relatively large number of condemnations with cattle is somewhat surprising since they are generally considered the most hardy and healthy of our domesticated animals. An examination of the causes of condemnation shows, however, that more than half of the parts of carcasses rejected were affected by injuries received in shipment, while almost one-third were condemned for abscesses, many of which no doubt were also due to mechanical injuries. That is, cattle, on account of their size, weight and combative disposition are particularly liable to injuries which may require the removal of a part of the carcass. Making allowance for such injuries, the condemnations with cattle will be no greater than with swine. The small proportion of condemnations with sheep is remarkable, particularly when we consider the delicacy of their constitution and their feeble powers of resistance to unfavorable conditions.

When we examine into the causes of condemnations with cattle we are impressed by the relative number due to actinomycosis and tuberculosis. Of the whole carcasses condemned, 26 per cent. were affected with actinomycosis and 36 per cent. with tuberculosis. Of the parts of carcasses condemned, 13 per cent. were affected with actinomycosis and 1 per cent. with tuberculosis. Nevertheless, there is a surprisingly small proportion of the beef-producing cattle, as they come to our large abattoirs, which are affected with these diseases. Taking the total condemnations of whole carcasses and parts of carcasses for tuberculosis, we find but 8.1 per 10,000 animals; and in the same manner, with actinomycosis we find 9.2 per 10,000 animals. Actinomycosis, also, affects hogs and sheep, but much more rarely than cattle. Thus with hogs, 43 whole carcasses and 47 parts of carcasses were condemned for this disease out of 44,841,779 carcasses inspected; that is something over two affected carcasses to a million. This does not give an accurate idea of the frequency of actinomycosis with hogs, however, as many of the tumors for which condemnations were made were undoubtedly actinomycotic growths. In sheep two whole carcasses were condemned for actinomycosis out of 11,110,776. Tuberculosis is one of the principal diseases found in swine, though it is far less common than with cattle. Adding together the number of whole carcasses and parts of carcasses condemned we find that approximately 1.3 hogs per 10,000 are affected. Tuberculosis in sheep is a very rare disease. Our reports give tuberculosis and pseudo-tuberculosis together, the latter being much the more common. Including both, however, there are specified but 6 per 100,000 sheep inspected. It is quite probable that some of the abscesses reported were due to pseudo-tuberculosis.

Tuberculosis in cattle is generally a localized disease. It affects most frequently the bronchial and mediastinal lymph-glands and lungs, but very often the abdominal lymph-glands, liver or spleen are invaded. Sometimes it is generalized and tubercles are found widely distributed, affecting even the muscles and bones. Some statistics show the uterus involved in about 10 per cent. of the tuberculous cows and the udder in 1 or 2 per cent.

Our inspectors are instructed to condemn: 1, all carcasses affected with generalized tuberculosis; 2, all carcasses with extensive localized tuberculosis, and 3, all carcasses with localized tuberculosis that show signs of emaciation. This ruling is considerably more stringent than the European practice, which allows carcasses affected with localized tuberculosis to go on the market without regard to the extent of the lesions, except in case of marked emaciation. Even generalized tuberculosis is not always considered, in other countries, a sufficient cause for condemnation, and those carcasses in which the lesions are apparently confined to the organs of the body cavities, especially if the process of generalization has not been recent, are passed as fit for food.

The beef cattle which come to our large abattoirs are singularly free from tuberculosis, since only one animal in 1500 or 2000 is affected to an extent which causes the condemnation of any part of the carcass. Dairy cattle, however, are much more seriously affected, and from 5 to 10 per cent. may be found tuberculous. In European countries the tuberculosis of cattle is much more frequent than in the United States, the slaughterhouse statistics showing from 20 to 50 per cent. of all such animals to be affected.

There is a possibility of fetal infection in bovine tuberculosis, but such cases are quite rare. The congenital form of tuberculosis exists in probably less than 1 per cent. of the calves born of tuberculous mothers. The tuberculosis of calves arises from virulent milk used as food rather than from infection in utero. The specimens of tuberculous udders illustrate the appearance of the affected gland, and also the possibility of large quantities of virulent material finding its way into the milk. The milk should be considered dangerous in all cases in which the disease has invaded the udder, and it may also be infectious in advanced cases of tuberculosis although no lesions can be discovered in the udder.

There is not time on this occasion to discuss the transmission of bovine tuberculosis to man. I believe that such transmission occurs and that precautions should be taken to guard against it. The frequency with which tuberculosis is communicated from animals to man can only be determined by the long-continued, careful and concerted observation of physicians. The data which we now have is meager and much of it is unsatisfactory. It consists of accidental inoculations and of primary tuberculosis of the intestines or mesenteric glands. In the former case the origin of the lesion

is generally very clear; in the latter we can only infer that the bacilli were introduced with the food. When the death of a number of persons in the same institution —school, asylum—occurs from abdominal tuberculosis and the cows furnishing the milk are found to have their udders affected with the disease, and to be producing virulent milk, the evidence of transmission is about as strong as we can expect to obtain. Unfortunately, sufficient attention has not been given to such observations in this or in other countries, so far as I am aware. Careful post-mortem examinations of children which die in asylums and hospitals should in time furnish most valuable evidence.

As an example of what the speaker has in mind, he would refer to an article by Dr. George F. Still, M.A., M.D., M.R.C.P.[1] This communication gives the results of 769 consecutive autopsies on children, all being hospital patients. Of these, 269 presented lesions of tuberculosis. As far as could be ascertained, 53 were infected by way of the intestine, and 10 others were probably infected through this channel. That is, 63 out of 269, or 23.4 per cent., probably contracted the disease by infection taken with the food. There were 43 cases in which death occurred from some other cause than tuberculosis; and these cases were noted as furnishing almost indisputable evidence of the method of infection in each individual case, since the tuberculous disease had either been arrested in its early stages or had not yet progressed beyond the initial stage. With these cases the evidence as to primary focus of infection was as follows: Lung, 26; intestine, 16; ear, 1. That is, where the evidence was most clear, the infection was by the digestive tract in 37.2 per cent. of the cases. It is a pity that we have not enough evidence of this character from the principal countries to enable us to form an intelligent opinion as to the relation, if any, which exists between the frequency of tuberculosis in the food-producing animals, and that of abdominal tuberculosis in mankind.

Although tuberculosis is less common in swine than in cattle it has a greater tendency to generalization and affected carcasses need to be very carefully scrutinized before they are passed as fit for food.

The specimens showing the tuberculous lesions in cattle and hogs will be found most interesting, particularly those from the udder of the cow and those illustrating the generalized form of the disease in swine.

The pseudo-tuberculosis of sheep is a very interesting disease, generally found among animals which have originated in the southwestern section of the United States, from Texas to California inclusive. It is generally observed in mature animals, though it is occasionally found in lambs. The lymphatic glands, lungs and liver are the parts oftenest affected. One or more of the prescapular, inguinal, sublumbar, mediastinal or bronchial glands may be found enlarged and on pressure gives a sensation such as would be expected from a thick-walled sac containing semi-fluid material. On section the contents are found to be yellowish green and caseous, while the capsule is grayish-white, fibrous and firm. Sometimes the caseous substance closely resembles the contents of softened tubercles, but in older lesions it has a greater consistency, finally becoming dry and mealy. As a rule, these lesions do not present evidence of calcification. The lesions in the lungs, liver and other organs have a similar appearance. They are well defined and surrounded by a wall of fibrous tissue.

Microscopic examination of cover-glass preparations made from the caseous material and stained by Gram's method demonstrates the presence of a small, ovoid bacillus. It develops on agar in the course of forty-eight hours as an irregular, whitish colony, with crenated border and papillated center. In bouillon turbidity occurs in thirty-six hours and in forty-eight hours a heavy, white granular precipitate forms at the bottom of the tube.

Intravenous inoculations of rabbits and guinea-pigs cause death in six to ten days with cheesy foci of varying size in the lungs, liver and spleen. Subcutaneous inoculations cause death in these animals in twenty-five to thirty days, with caseous degeneration of the tissues near the point of inoculation and lesions of the neighboring lymphatics. Feeding experiments with these small animals produce fatal results in eight to ten weeks, the lesions being identical with those caused by intravenous inoculation, except that the lymphatic glands of the head and throat are more frequently involved. Feeding experiments with sheep have given negative results. Intravenous inoculation of sheep with material from the caseous lymphatic glands of diseased animals have produced in the course of eight weeks only small caseous foci, the size of a hazelnut, in the lungs.

Another interesting disease, of which specimens are shown, is the nodular disease of the sheep's intestine. These nodules, which have often been regarded as of tubercular nature, are really due to the irritation caused by the immature form of an intestinal worm—the esophagostoma columbianum. This is a very common disease and apparently only affects the sheep's health when the nodules are so numerous as to interfere with the assimilation of the food. In some parts of the country the esophagostoma is a great pest and multiplies so rapidly that it is practically impossible to keep sheep successfully in large flocks.

The frequency with which hogs are found affected with cholera and swine plague is indicated by the fact that of 106,555 carcasses condemned, 85,904, or 80.7 per cent., were rejected for this cause. It is therefore important that inspectors should be familiar with the appearances of meat affected with this disease.

Your attention is invited to the lesions of actinomycosis in the jaw, tongue, liver, lungs and udder. The actinomycotic process is most frequently seen in this country affecting the maxillary bones, where it causes a large, hard suppurating tumor which disfigures the animal and gives it a very unprepossessing appearance. The tongue is often affected, becoming enlarged, hard and filled with nodules containing caseous material. Actinomycotic tumors may be found in the pharynx, larynx and esophagus. Lesions resembling those of tuberculosis are found in the lungs, liver and peritoneum. In general, it may be said that the actinomycotic lesion develops either with a tubercular appearance, or as a soft, moist, reddish tumor, or, finally, as a hard fibrous tumor. There is a tendency to disintegration and suppuration and sometimes the lesion consists simply of an abscess. The presence of the actinomyces tufts constitutes a reliable means of diagnosis.

The repulsive appearance of animals affected with actinomycosis of the head has inclined some sanitarians to give undue attention to this disease to the neglect of others having a greater effect on the flesh and that are more dangerous to the consumer. As this disease is probably not transmitted from animals to man the car-

[1] British Med. Jour., Aug. 19, 1899, p. 455.

casses are only condemned when there is emaciation or when the lesions are so large, active or disseminated as to affect the system at large.

Perhaps I should explain, that while in some countries, possibly in most countries, the meat inspectors condemn only such meat as they believe to be clearly injurious to consumers, we go somewhat farther in this country and condemn much meat which is not actually injurious, but which for various reasons is repugnant. In this class may be placed the carcasses of animals advanced in pregnancy, or those which have recently given birth to their young; the unborn fetus and the very young calf or lamb; the carcasses of animals suffering from pneumonia, pleurisy or some other non-infectious disease; the greater part of the actinomycotic carcasses and of those affected with extensive though localized tuberculosis. On the same principle we destroyed the carcasses of all cattle affected with contagious pleuropneumonia when we were engaged in the work of eradicating that disease, although it had been proved by European experience that the flesh of these animals might be consumed with impunity.

Turning now to the animal parasites which are encountered on the slaughtering floor, it may be observed that the subject of meat inspection for these organisms bears both a direct and an indirect relation to public health, for we find parasites, some of which are transmissible directly to man through the meat eaten as food, while others are transmissible indirectly, first passing a stage of their life in some other host. Among those which are transmissible directly to man, your attention is especially invited to the larval stages of tape-worms. Cystericus bovis occurs in cattle and when eaten by man gives rise to the common tape-worm found in this country, tænia saginata by name. The specimen exhibited is a cross-section through the tongue of a calf, and these bladder-like structures more or less resembling particles of fat represent the larval worm. This particular tape-worm is not an especially dangerous parasite. It may bring about digestive troubles, and it is occasionally very difficult to expel it, but, as a rule, we may say that the parasite is only of temporary importance, its effects passing off when the worm is expelled. With this specimen, the matter is entirely different. This is the so-called "measle tape-worm," tænia solium, and is contracted by swallowing the larval bladder worm, cystericus cellulosæ by name, which occurs in pork. Owing to the fact that Americans are in the habit of cooking or curing pork quite thoroughly before consuming it, the larval stage is usually killed, hence the adult parasite tænia solium in man is rather infrequent in this country. It will, however, be found among Germans and others who are in the habit of eating raw or rare pork. Sometimes, perhaps, physicians do not attempt to distinguish between cases of infection among their patients by the two worms just mentioned. The fact should not be lost sight of, however, that the tænia solium is a very much more dangerous parasite than tænia saginata, for if a patient soils his hands with the microscopic eggs during defecation or if he has reverse peristalsis of the intestine strong enough to carry one or more segments of the tape-worm into the stomach, he infects himself with the larval stage. In this case the embryos escape from the segments into the stomach and wander to various parts of the body, more especially to the muscles, the eyes and the brain. If one of the larvæ develops in the eye, more or less serious conditions may result, while if they develop in the brain, they may lead to serious complications, according to the part of the brain in which they grow, and may finally result in death. Again, it may not be amiss to remind physicians that, in treating for tape-worms, they constantly stand in danger of infecting themselves with the larval stage, if they handle the tænia solium, a danger which does not exist in connection with tænia saginata. The existence of these two parasites in our American cattle and hogs, leads me to suggest that the practicing physician has a duty to perform in seeing that all tape-worms passed by his patients, are totally destroyed, unless preserved for scientific work. It too often happens that the patient is not properly instructed in this matter and passes the worm in some place where the eggs are scattered so that they afterward infect cattle and hogs.

The meat inspection in Germany has resulted in decreasing the frequency of tape-worm disease in man, as well as the infection with the larval stage of cysticercus cellulosæ. We have no exact statistics on this subject for the United States, but it would appear that the federal meat inspection system must necessarily contribute its share to the decrease of tape-worm disease. If physicians will do their part in burning the tape-worms passed by their patients, there is no reason why we should not gradually eradicate these two parasites from the country.

Another parasite transmissible directly to man by means of the meat, is the well-known trichina spiralis, the cause of the disease trichinosis. Fortunately, our curing and culinary methods are a great protection against infection with this worm. We do not make an inspection with a view of excluding this parasite from the pork which is consumed in this country. It would cost us nearly three million dollars per annum to accomplish this, and the statistics of Germany show beyond a question that a microscopic examination is not of such great value as is generally supposed. The Bureau of Animal Industry has recently compiled over fourteen thousand cases of trichinosis in Germany from 1860 till 1898, inclusive, and from our compilation it results that the general mortality of the disease is 5.6 per cent. Of over six thousand cases which occurred during the years 1881 till 1898, inclusive, about 51 per cent. of all the cases were due to faults in the microscopic inspection, the vast majority of these occurring from meat which had been inspected and passed as free from trichinæ. One is scarcely warranted in recommending that this Government expend three million dollars per annum for the general introduction of a sanitary inspection which the German statistics prove to be so uncertain, an inspection which is calculated to raise a false sense of security among our people, and which might tend to increase the dangerous custom of eating raw or rare pork. Trichinosis may be prevented much more effectually by educating the public to the use of thoroughly cured pork and to the idea that when it is not thoroughly cured, it should, at least, be thoroughly cooked.

Finally, I invite your special attention to an animal parasite which is apparently on the increase in this country. I refer to the echinococcus, the cause of the hydatid disease. This bladder-worm may be found in almost any part of the body of the meat-producing animals, and especially in the lungs and liver of cattle, sheep and swine. You will pardon me, I trust, for recalling some points in its life history which are no doubt familiar to you. If a man were to eat an affected organ,

it would do him no harm, for the parasite is not directly transmissible from these animals to man. If, however, the hydatid worm is fed to a dog, each separate head of the cyst, and there may be thousands in a single cyst, develops into a tape-worm. It is probably the smallest tape-worm known, having very few segments, and only the last segment is gravid with eggs. The dog scatters the eggs of this tape-worm broadcast and the domesticated animals become infected with it. Mankind may also become infected with this parasite by a too close intimacy with dogs. In Iceland where men and dogs live during the long months of winter in the same huts and without any idea of sanitary precautions, it is said that one person out of 43 is affected with the echinococcus disease. In some parts of Germany the disease is also very frequent. Ostertag gives a table from which it appears that at Rostock out of 1026 post-mortems on man 25 cases were found, or 2.43 per cent.; at Breslau out of 1360 post-mortems there were 20 cases, or 1.47 per cent.; at Berlin out of 4770 post-mortems there were 33 cases or 0.76 per cent. It is also alleged to be common in Siberia, India and Australia. The disease can only be controlled by careful meat inspection and the destruction of all hydatids that are found. Unfortunately the local slaughter-houses of this country are not looked after so closely as they should be. It is often an easy matter for dogs to gain access to such premises and to become infected with this parasite and thus propagate the infection. To prevent this and other diseases there should be expert supervision over all slaughter-houses. Places for slaughtering should be reduced in number so that all the butchers of a town or village would slaughter at the same place and the premises where slaughtering is done should be under the surveillance of the local board of health. Offal feeding should be done away with in order to prevent the propagation of this class of parasites, and under no circumstances should a dog ever be allowed on the premises.

I trust this brief and somewhat superficial review of the subject of meat inspection, and the exhibition of specimens, may serve to increase the interest of physicians in this branch of sanitary work. It is only through the examination of the pathological specimens actually found by the meat inspectors that we are able to appreciate the importance of having experienced and educated men on guard to withdraw carcasses so affected from the meat-supply of the country. The great mass of our citizens have no conception either of the diseases found among animals at the abattoirs, or of the enormous amount of work which our government is doing to protect them from diseased animal products.

No public work, however, can long be sustained or carried to the highest degree of efficiency unless the people of the country understand its objects and value and become interested in it. This being true as a general proposition, we can hardly expect the meat-inspection service, interfering as it must more or less with some of the wealthiest and most powerful industrial organizations in the world, to be conducted with vigor and a rigid adherence to correct principles, unless there is a popular appreciation of the value of the work to every consumer of meats. This service must appeal first of all to the physician, who, being familiar with pathological appearances, can by inspecting these specimens judge of their seriousness and their influence on the public health.

NON-ALCOHOLIC INSANITY is decreasing in Scotland, while alcoholic insanity is increasing, according to the past year's records of the Edinburgh Asylum for the Insane.

THE TREATMENT OF PROLAPSE OF THE RECTUM.*

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There is perhaps no pathologic condition which affects the rectum, that gives so much concern to the surgeon, as a serious prolapse. It is not to be understood that reference is had to the prolapse that occurs in infancy or to the milder forms met with in adult life. I have yet to see a prolapse of the rectum, incident to young life, that has not readily yielded to the following simple plan of treatment, viz.: Administration of a gentle purgative and, when it acts, the protruded gut is washed with cold water and returned. Then the physician in attendance straps together the two buttocks, bringing them in close apposition by means of adhesive plaster. This is allowed to remain on for four or five days, and the little patient is kept in bed and permitted to have only liquid nourishment. At the end of this time the adhesive strips are removed and the bowels allowed to move in response to a dose of castor-oil and an enema of cold water. The child should be allowed to have its action from the bowels while lying on the back. The adhesive plaster strips are then reapplied and the child put to bed for another five days—the purgative is again given, when it will be observed that the gut will no longer protrude if the proper attention is given the position of the patient during the action of defecation, which should be either in the erect one or reclining upon its back. The application of fuming nitric acid or other caustics should be deprecated in all such cases.

LINEAR CAUTERIZATION.

Linear cauterization is recommended by some, notably Van Buren, in his most excellent work on "Diseases of the Rectum." It was advised by him to use the actual cautery-iron in most all cases of prolapse of the rectum. The truth is that the remedy is too severe to use in simple cases, and is of no benefit in the graver ones. Its application would often result in hemorrhage if the iron is applied sufficiently hot to cause a slough, and unless a slough does occur, no benefit is derived from this mode of treatment.

AMPUTATION.

The former custom of cutting out an elliptical piece of the gut and drawing it together by sutures is so unsatisfactory in its results that it will not be discussed here. Amputation of the "prolapse" is, however, an operation advocated by a good many and should receive careful consideration. We must remember that it is often a difficult matter to tell just what kind of a prolapse is being dealt with. A prolapse of mucous membrane alone can be amputated and tied off, just as hemorrhoids are treated. But to cut off a more serious prolapse, means the opening of or the wounding of the peritoneum with perhaps dangerous complications, not to speak of subsequent contraction as the result of the amputation. This phase of the subject has been carefuly considered by modern operators, and I beg to call attention to a recent report of such a case by Dr. George Ryerson Fowler[1] of New York. He says:

In a case of large rectal prolapse recently under my care at the Brooklyn Hospital, the following method of carrying out the procedure of amputation of the prolapse proved to be comparatively easy of performance, and was followed by a most excellent result. The patient was a male in whom the

* Read before the Chicago Medical Society by invitation.
1. Med. News, Dec. 8, 1900.

mass protruded about five inches, and had been in existence for five years.

Analgesia was effected by means of spinal cocainization. The patient was placed in the combined lithotomy and Trendelenburg position. Being fully conscious, he was able to bear down forcibly and extrude the prolapse fully, thus doing away with the necessity for traction upon the latter. A row of fenestrated or ring-headed forceps (common artery clamps will answer, but do not hold so well) was placed just in front of the junction of the mucous membrane with the skin of the anus in such a manner as to pinch up a circular fold of the mucous membrane of the outer cylinder for the entire circumference of the gut. About half an inch in front of this again an incision was made, likewise for the entire circumference of the outer cylinder of the gut, this incision extending through the mucous membrane only. Its proximal edge was dissected back for a half-inch. Two clamps were now placed, one upon either side, at the point of the prolapse, or the place where the outer cylinder of the gut returns to form the inner cylinder. With the mass thus steadied and the two cylinders identified, the index finger of the left hand was passed up the inner cylinder, and with this as a guide the cylinder incision already made in the circumference of the outer cylinder was deepened to the extent of a half inch so as to include the remainder of the thickness of the latter and the inner cylinder

through its entire thickness to the finger inside the latter. A suture of catgut was now placed so as to include the entire thickness of the two cylinders where the half-inch opening was made, with the exception of the turned-back mucous membrane cuff at the anal mucocutaneous margin grasped at first by the fenestrated forceps. This step of the operation was repeated until the entire circumference of the cylinders was transversed, save that each subsequent suture was first applied and the incision extended afterward. Care was taken that each extension of the incision was carried no farther than the area previously secured by the suture. Throughout this portion of the operation a stream of warm borosalicylic (Thiersch) solution was kept playing upon the parts. When the posterior portion of the circumference was reached the mesenteric attachment of the gut was encountered. This was treated precisely as the interior portion, no difficulty being encountered in securing the vessels of the mesentery in the suture. As the last suture was applied the final cut was made in front of it, completing the amputation of the prolapse. The dissected-back mucous membrane at the mucocutaneous margin, which up to this time had been held in the grasp of the forceps first applied, was now replaced and sutured in position over the first rows of sutures. Alcohol-boiled catgut was used as suture material throughout the entire operation. The patient suffered not the slightest pain during the entire operation, nor inconvenience either then or thereafter from the spinal cocainization, save slight nausea and mild headache. An opium suppository was placed high up in the bowel, and the parts replaced. A light tampon of zinc oxid gauze was placed in position for forty-eight hours, after which it was removed and a castor-oil cathartic given, followed in three hours by a sweet-oil enema.

The advantage of this method consists: 1, in the use of the combined lithotomy and Trendelenburg position, in order to prevent the descent of the small intestines during the operation, and thus providing against injury to these during the suturing; 2, in turning back a cuff at the mucocutaneous margin for the purpose of preserving the normal conditions at the rectal outlet, and at the same time permitting the removal of all the relaxed and overstretched mucous and submucous structures at this point. This cuff also provides a covering for the sutured edges of the stump of the prolapse and diminishes opportunities for subsequent infection; 3, in the step-by-step application of, first, a suture and then an extension of the incision through both cylinders to correspond with the sutured area, in this manner avoiding exposure of the peritoneal cavity to infection.

It is not claimed that this operation possesses all of these advantages exclusively. Several of them are features of one or another operation. I do not remember, however, to have seen them all combined in one procedure before.

Whereas Dr. Fowler does not claim that the operation is an original one in all its details, it does possess unique features and was attended by a brilliant result. However, there are some formidable objections that could be urged against it, but the scope of this paper will not permit. I have for many years been interested in the study of this affection, and have tried many if not all the plans of treatment for its cure, and must confess to disappointment in them all as a rule. The matter of curing a formidable prolapse of the rectum in the adult is no simple matter, and simple means will not avail. It was after several complete failures that I determined to try an original plan—at least so far as it was known to me—viz., to open the abdomen and anchor the colon or flexure for the cure of a long-standing prolapse of the rectum. Before reporting this case I desire to mention one reported by Dr. Chas. P. Noble,[2] of Philadelphia, who says:

Marked prolapse and inversion of the rectum in adults is a condition which is well known for its intractable nature and for the difficulty of effecting a cure. It is not my purpose

2. Am. Gyn. and Obstet. Jour., December, 1900.

to discuss the etiology of the condition nor the treatment of the recent and more simple cases, which can often be cured by the removal of the cause, and careful attention to the regulation of the bowel movements. I desire to advocate a simple method of operation which promises well in the treatment of intractable cases, and to report two cases in which this operation has been performed. The operation which I would propose is to open the peritoneal cavity by an incision made through the left rectus muscle slightly below the promontory of the sacrum, to search for the sigmoid or for the rectum and to make traction upon it until it is inverted and until "the slack" has been taken up. The point at which the lower portion of the rectum will come in contact with the abdominal wall on slight tension should be determined, and this point attached to the abdominal wall by three or more fine silk sutures. The sutures should be passed so as to include a portion of the rectus muscle, and should pass under the anterior longitudinal band of the rectum. In this way the bowel can be firmly attached to the abdominal wall with the least danger of penetrating its lumen and with the greatest prospect of permanent attachment. The abdominal wall should then be closed by the tier method.

The history of the two cases is as follows:

Mrs. I., aged 35, primipara, consulted me March 21, 1899. She complained of backache and a feeling of discomfort about the rectum, which she attributed to piles. She stated that she had had piles for about five years and that these came down and gave her a great deal of annoyance. The general examination threw no light upon the local trouble. Her health was otherwise good. Her bowels were obstinately constipated. Upon examination the supposed piles proved to be inverted rectum. Because of the unsatisfactory results which are usually obtained from the various direct operations upon the protruded bowel, I determined to perform a proctorrhaphy, which was done two days later. She made a prompt recovery, and was discharged from the hospital March 25. Her physician has told me within a month that the operation has effected a permanent cure. She is perfectly well, with the exception that there is some tendency to constipation, for which it is necessary to administer a laxative.

Miss D., aged 19, consulted me March 13, 1900, complaining of a sense of weight or bearing down about the rectum and intense backache. During each bowel movement there is an inversion of the rectum. For some time she has had but little control over her sphincter muscle. The present trouble began three years ago, after an attack of constipation, for which she took a powerful cathartic. Her bowels are constipated, but otherwise there is nothing in the history bearing upon the local trouble. Upon examination the sphincter was found in a paretic condition. In the Sims' position or in the knee-elbow position it dilated under atmospheric pressure, so that the rectum filled with air. Examination with the proctoscope showed a relaxed rectum, which was otherwise normal. On April 16 proctorrhaphy was performed. The patient made a good recovery and was discharged about five weeks after the operation. She consulted me in November, seven months after the operation, and reported that she had no trouble with her rectum until within a few weeks, since which time there has been some tendency to eversion of the bowel at stool. She is still constipated and has not taken her laxatives regularly. Upon examination, the anus was found in normal condition, the bowel in situ and, so far as an examination could show, the operation was entirely successful. As against this we have the statement of the patient that there is a tendency to recurrence of the old trouble. It is my judgment that reasonable care in the administration of laxatives and the use of enemata, so as to avoid constipation and straining, will be sufficient to effect a permanent cure.

When I operated on the first case, March 23, 1899, I was under the impression that the operation was original with myself. I have since learned that it has been done by Dr. W. Jos. Hearn, of Philadelphia, in one case with good result. Probably the first surgeon to perform this operation was McLeod, of Calcutta (B. K. McLeod, F.R.C.S.E.: "A New Operation for Prolapse of the Rectum," Lancet, vol. ii, p. 117, 1890). The technique which he employed, however, would not be likely to appeal to most surgeons. He introduced his hand into the rectum, reduced the inversion, put the rectum on the stretch from below upward, and pressed the rectum against the abdominal wall, endeavoring to press the small bowels to one side so that the rectal wall would come in contact with the abdominal wall. Two acu-pressure pins were introduced through the abdominal wall and through the rectum, penetrating its lumen, so as to fasten the rectum to the abdominal wall. These pins were separated by an interval of three inches, and they were so introduced that the rectum was made to take the course of running from below upward and from within outward. Having fixed the rectum to the abdominal wall, an incision was made between the pins down to, but not through, the parietal peritoneum. The hand was again introduced into the bowel as a guide, and fine sutures were introduced through the abdominal wall, and through the wall of the bowel, avoiding its mucous membrane, and then out through the opposite side of the wound. In this way the rectal wall was attached to the abdominal wall. The acu-pressure pins were removed after twenty-four hours. The patient made a fairly good recovery, the wound healing by first intention. The result was a cure.

It will be noticed that the cases reported by Dr. Noble were not types of prolapse even of the second degree, and in no way compare with the report of my case in severity of symptoms or extent of the affection.

On April 17, 1899, Mr. G. N. McL. was referred for operation, by his family physician. He gave the following statement of his case by request.

In February, 1865, while in camp and on line of duty at Fort Fisher, N. C., and on the marches through the state, I contracted a chronic diarrhea, which, with short intermissions, continued for many years, often confining me to bed. The prolapse commenced shortly after taking diarrhea and I was never entirely well of it afterward, but continued to get worse until, in 1875, when I quit all kinds of manual labor. From 1875 to 1885 I grew much worse, being much weaker and miserable. Diarrhea was bad by spells. From 1885 to 1895 diarrhea almost ceased, but the prolapse was much worse. From 1895 to 1899, diarrhea was less, prolapse much worse, though I was not confined to bed, but required a nurse most of the time. I was operated on April 17, 1899.

On examination it was found that the patient was suffering from an immense prolapse, in size about the measurement in circumference of a No. 7 Derby hat. (See photos.) It contained all the coats of the rectum, peritoneum, and in addition the bladder. In determining the method of operation, the fact of the presence of the bladder dissipated any idea of amputating the mass. When I made a statement of the formidable operation that might be required to effect a cure, he replied that life was a burden to him and that he would take any kind of a risk. After thorough preparation, he was placed under chloroform, and the bowel made to protrude to its fullest extent in order to examine it more fully. The thickness of its walls was truly amazing, and had the effect of making me doubt whether so heavy a mass could ever be held in place. An incision was made in the left inguinal region, extending upward about six inches. The hand of a competent assistant reduced the mass and was pushed with it up the rectum until the fingers could be felt in the sigmoid flexure by the operator. This procedure was found to be of wonderful assistance during the operation. The gut was now drawn taut and anchored to the abdominal muscular wall by a running suture of chromotized catgut for fully three inches. Simple anchoring by the interrupted suture would not have availed anything I am sure, in this case. The abdominal wound was closed, the patient put to bed, position on the back, with the foot of the bed elevated. He was kept in this position for two weeks, with watchful care. The bowels were moved on the fifth day by an aperient assisted by an enema. This was repeated in another five days. At the end of two weeks he was allowed to change position and recline on his side. The rectum was irrigated with a simple antiseptic solution every day. In the act of defecation, he was directed to always use the bed-pan during this time. At the expiration of a month his bowels moved on the commode without protrusion. I should state that after all the mass was pushed back, there was found to still protrude, mucous membrane about the

size of a case of well-formed internal hemorrhoids. This proved fortunate, for by its simple ligation, a strictured condition resulted which was of great service at the anal orifice. It can be quite understood that the sphincter muscles were so distended by this great mass as to be nearly unrecognizable and without power of control.

The question naturally suggested was whether the muscle would ever regain its power and, if so, to what extent? Also, would this wonderfully thickened gut ever be thinned to assume or approximate the normal. I am glad to report that both conditions were eventually brought about. About one year after the operation was done I examined him, in company with Dr. Geo. J. Cook of Indianapolis, and found good contractile power in the sphincter, and the gut thinned to nearly a normal condition. On June 25, about two months after the operation, the patient wrote: "I have been using the water-closet, and there is no indication of the bowel coming down." He has continued to improve ever since and gained much in flesh. This case has never been reported.

I conclude: 1. That in all cases of prolapse of the rectum of the second or third degree, colopexia is to be preferred to all other procedures. 2. That it is the least dangerous of any surgical procedure advised for prolapse. 3. That the uninterrupted suture should be used in preference to the interrupted, especially in cases when the mass is large or the walls of the gut much thickened.

Mr Carlyon,[3] of London, says that he has only been able to find three cases of colopexia operations. He does not intimate for what degree of prolapse these were done. The operation referred to by me was done in April, 1899, and at that time I had never heard of its being done. Though, therefore, not original with me, I thought at the time that it was. No case that I have yet heard of compares in magnitude to this one, and I trust that by now reporting it, two years after the operation, the said report may prove of some benefit to those desiring to operate for so formidable a malady. In 1889, Jaennel fixed the colon to an artificial anus wound in the iliac region. Bryant found records of twenty-nine cases done by this method. In my opinion this procedure is not only unnecessary, but unjustifiable. Dr. Bovée, of Washington, reports an interesting case of colopexia done on a woman during an abdominal section after the ovaries and appendages had been removed.

In reporting this case I desire to thank my friend, Dr. Ap Morgan Vance for valuable assistance and suggestions.

3. The Lancet, December 1899.

SANITARY CONDITIONS OF PEKING.

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PEKING, CHINA.

The Chinese army has been driven from Peking, the Empress and her co-conspirators have fled, the order is cut for the punishment of the most guilty and the sacred city, we are told, is well patrolled by the foreign soldiers. All true, but those who have lived in Peking know that within a year, unless certain measures are taken, officers and men will discover a deadlier foe than the Empress Dowager's imperial troops, and the death-roll will be longer than it was after the taking of Fort Taku and Tien-Tsin.

Population.—The population of Peking is unknown, perhaps not being so great now as before the recent uprising, but still close to the one million mark. Some writers have greatly overestimated the number of inhabitants in this famous old city. Peking lies near the fortieth degree north latitude, ninety miles from the sea and one hundred and twenty feet above sea-level. It is surrounded to the north and west with mountainous hills, to the south lies the great plain of central China; the latter is sandy but well watered.

Climate.—The climate is similar to that of New York, but much more trying, especially during the spring and summer. From November until March the weather is cold, but March is windy there as elsewhere, and sand storms blow over the city; these are not only disagreeable, but dangerous. In April the temperature rises and in May reaches 90 to 95 degrees F. During May and June thunderstorms and rains are to be expected, and these are frequently the forerunners of an almost continual downpour which lasts from July to the early part of September. The annual rainfall[1] varies from 46 to 76 inches, but after the rainy season is over, with the exception of some very dusty days, the fall weather is delightful.

Street Sprinkler.

Water Supply.—A study of the sanitary conditions of Peking reveals much of a threatening nature and, if it teaches nothing new, throws indisputable proof in favor of our present ideas concerning the causation of disease. The city is without water-works, and has no sewerage system worthy of the name. The Chinaman believes in open sewers, claiming that it is better to leave the foul gases free than to pen them beneath the ground. But whether this is based on some scientific theory not yet explained, or ignorance of refuse disposal, I can not say, but am inclined to attribute it to ignorance. The water-supply is from wells dug along the sides of the streets; a heavy stone covers the well's mouth and the water is drawn in wooden buckets by rope and pulley; the presence of an open sewer ten feet away, or even running by the mouth of the well, in no way seems to militate against the site on which to sink a well. How often these wells are cleaned out it is impossible to learn, but it may be safely affirmed that they are cleaned only when enough dirt gathers in the bottom to interfere with the filling of the well. The water itself is

A Cesspool on one of the Main Streets.

1. There is no official record. This is the average for a number of years past, taken by different observers.

clear and of two varieties, known as "sweet" and "bitter" water. The latter is due to an excess of alkali containing 22 per cent. of hardness, as shown by examination. The use of this water means a great deal of kidney trouble. In one year, in a Peking hospital, I have seen more Bright's disease and stone in the bladder than in almost three years spent in connection with much larger hospitals in the United States. Fortunately the Chinese have learned by experience that "raw" water is not good for them, and consequently drink it boiled and colored with a very weak tea.

Street Sprinkling.—The street, or traffic way, which is simply an unpaved mud road, is the common receptacle for rubbish, offal and excrement. It is sprinkled—when sprinkled at all—by hand. For this purpose no water can be too filthy. In fact, the cesspool by the roadside is the common source of sprinkling water.

House Sanitation.—Here we find no alleys as in American cities; each residence is surrounded by a wall, and one compound may contain numerous houses. All the refuse of bedchamber and kitchen finds its disposal upon the street or into an open sewer, where it decays immediately below the surface of the ground. It must be said, however, that the Chinese kitchen has practically no waste compared with the American. A potato paring is too valuable an article of food to be lightly thrown away.

Every day the manure gatherer may be seen, with a large keg suspended from his shoulders, trudging along the street gathering up the deposit. Here is to be found one of the most disgusting and unsanitary systems in the world; this excrement from man as well as beast is carried to different quarters of the city and prepared for agricultural purposes. From

A Street Well.

the sanitarian's point of view this does not need to be dwelt upon; such places are the charnal houses of disease, seething cauldrons disseminating poisonous vapors to be wafted over the city.

Abbattoirs.—In front of meat shops the animals are killed upon the earth thresholds. In fact, on almost any walk along the street the whole process of the abbattoir may be seen.

Former Sanitary Efforts.—Here we have an open violation of the tripod of modern sanitary science, sewerage, water-supply and the disposal of refuse. At one time in the history of the city an effort was made to build large sewers, and the masonry of those they built is creditable; but the system was not general, and that which they did build has fallen into decay, there being little or no effort to keep it in repair. Here and there these old sewers serve a good purpose, but for the most part the refuse and waste water stand reeking in them and in the cess-pools until the stagnant matter is again thrown upon the street by the street sprinkler, to again disseminate its poison into the air.

Peking's Scavengers.—Peking is pre-eminently a city of dogs—large, savage-looking mongrels, but of cowardly spirit. These animals, while the vilest creatures ever seen, eat anything short of mortar and brick, and contribute greatly to the disposal of refuse; while their presence is a menace to public health, they are of positive usefulness in a city such as the Chinese capital. With these must be mentioned the black hogs of China, which run the city streets unmolested; they are the city scavengers, but add a great element of danger to the health of such a densely populated district.

The Houses.—The dwelling-houses are devoid of anything like a cellar, the floor being laid upon the ground and made of porous brick. Among the poorer classes, the floor is the ground itself. These permit of no circulating medium beneath their apartments, and the gases arising from the earth find ready access to the dwellings. Second story residences are unknown, except those built by foreigners. The windows of the Chinese house are made of lattice-work covered with thin sheets of paper. The rooms are heated, when heated at all, by very small earthenware stoves, in which they burn coal balls made from anthracite coal dust and mud. The rooms are often filled to a dangerous degree with coal gas; thousands of the Chinese die every year from asphyxiation, and it is in these houses with these accommodations that our troops have spent the long cold winter months in China.

Peking's Beggars.—Apart from all sanitary measures as a means of health preservation, nothing can take the place of bodily cleanliness. Beggars, ill-clad and filthy beyond description, cluster around the city gates and sit on every corner. A few years ago, a Chinese official states, in one night four hundred of them froze to death. This number has been greatly exaggerated, but the best Chinese authorities place it at the above figure. These beggars sleep in gateways, or wherever they find it convenient. Whatever may be said of them from the philanthropic point of view, where their number is legion, they are disseminators of disease, and must be placed among the evils to be removed in placing the city on a sanitary basis.

Disposal of Dead.—In the disposition of the dead Peking has reached the limit of human abominations. If the deceased be wealthy the corpse is kept in the courtyard for weeks. When the day comes for interment the only bearers who can be found to carry the coffin are the beggars, and the wealthier the family the more beggars they add to the procession. The most gruesome sight in connection with this subject is the method in vogue among the poor of disposing of their dead children. Too poverty stricken to provide a funeral, and holding the superstition that a child who dies before the age of 10 must have been inhabited by a demon, the parents or guardians wrap the body in a coarse straw mat and throw it into the street during the night. At daybreak the dead-cart, drawn by an ox, passes along and the driver gathers up these little cast-out infants and children. It not infrequently happens that an unwanted new-born baby still living is found, and it is taken with the rest and all are buried in a heap outside the city. The disease of which the child dies is a matter of no consequence, the manner of burial being the same. The ox cart is sometimes assisted by barrow men. A wheel-barrow with double baskets full of little dead smallpox patients was seen one day two years ago down near Legation street. The baskets were full to overflowing, with no covering over the dead, on whose disfigured faces the hot sun was shining.

Means of Conveyance.—The common mode of conveyance in Peking is a mule cart large enough for one passenger to get into and sit upon a padded cotton seat or a fur rug on the cart floor. In them is often to be seen an individual broken out with the smallpox, and the next occupant may have something little better. Cart stands are numerous, and it is safe to say that no carter ever refuses a passenger because of any known disease. No sanitary view of this capital would be complete if it did not consider the influence of these conveyances on the public health.

The itinerant barber is another prolific spreader of diseases peculiar to his trade. The terrific dust storms no doubt carry with them much infection from point to point. A physician who has practiced here for many years has said that the inhabitants of Peking who survive live only by the incessant warfare that goes on between the bacteria themselves, and the ever-faithful phagocyte endeavoring to save us from the disease germs. But here the former is waging a war against terrible odds.

An Object-lesson.—An American bishop who visited Peking recently stated that, on entering the city, he distinguished seventy-two distinct odors. Peking is an appalling object-lesson to those who think too much money is expended in the support of our American boards of health. Any physician who reads this paper can tell, given such conditions, what will be the diseases prevalent. They are such as are to be expected from these surroundings. Cholera is a frequent visitor, cholerine lives there, smallpox is not epidemic but resident, diphtheria is a dreaded foe, typhoid and typhus fevers with malignant malaria and dysentery are always present, and consumption slays its victims by thousands every year. There is also a multitude of skin diseases. In short, every germ-produced disease, and the non-microbic as well, capable of flourishing in this latitude, find their home in this Chinese metropolis. The infant mortality is enormous.

If the powers intend to hold Peking for any length of time it would be wise to add to that misty antiquity and ancient culture which the present Chinese minister, Mr. Wu Ting Fang, dwells upon so persistently, a chapter on sanitation and approximate cleanliness of people and city; at the same time insure to a greater degree the health of our troops stationed there in the interest of a better civilization.

One of the conditions that ought to be required of China before admitting her to the society of enlightened nations is that she shall make her capital less dangerous as a place of residence by ridding it of the insanitary conditions that give rise to the enormous prevalence of those diseases that are the product of filth—a remnant of unenlightened ages. Sanitary science applied to Peking would make it as healthy a city as New York or Chicago.

THYROID TISSUE IN THE LARYNX AND TRACHEA.*

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CHICAGO.

Up to the present time nine cases of thyroid tissue growing within the larynx and trachea have been reported. The histories of these have been collected by Baurowicz, who reports one of his own together with these, in Fränkel's Archives of Laryngology and Rhinology, volume viii, 1898. I have been unable to find a description of the affection since the publication of Baurowicz's article, so think that I can claim that the case of my own that I shall describe is the tenth recorded of this rare affection. Up to the present time the cases reported are 3 by Paul Bruns, 2 by Heise from Bruns' clinic, and 1 each by Ziemssen, Paltauf, Baurowicz and Roth. The principal symptom caused by thyroid tissue in the larynx and trachea is dyspnea. This may have lasted for years, months or weeks before the patient is seen, and generally there is a history of rapidly increasing difficulty of breathing for the last weeks before aid is sought. In a large proportion of the patients tracheotomy is needed to save life. The voice generally does not become hoarse or lose its clearness, as the growth does not ordinarily extend above the lower larynx high enough to interfere with the vibrations and mobility of the vocal cords. An exception to this was in the case of Baurowicz, where one cord was found immobile. Enlargement of the thyroid gland is not a necessary accompaniment of the disorder, but a goiter is quite often present. The thyroid tissue in the larynx and trachea does not cause catarrhal symptoms or irritation, and the dyspnea alone makes us aware of its presence. Where the narrowing of the lumen of the larynx or trachea is sufficient, stenotic breathing becomes noticeable. The ages of the patients vary between 15 and 30 years. The thyroid tissue forms a swelling of variable extent, at times a single tumor being found the size of a pea or bean, other cases presenting diffuse outgrowths occupying a great part of the lower larynx and extending into the trachea.

The most constant situation of the neoplastic swelling is the interior of the cricoid ring. From here the growth is found prolonged into the trachea to a variable distance, the extreme so far found being the fourth tracheal ring. The mucous membrane over the outgrowth is normal in appearance and usually smooth, but in some parts it may present an irregular surface. The tumor has a broad base which merges insensibly into its surroundings. No case is recorded where it was pedunculated. In some cases the thyroid tissue takes the form of a diffused swelling rather than of a definite tumor. This was notably the condition in my own case. As an exceptional site, the location of the growth in the trachea only, without involvement of the larynx, may be mentioned. In all but two cases the tumor was seated on the posterior and lateral wall of the lower larynx and trachea. In one it occupied the anterior wall of the trachea just under the thyroid isthmus. The new-formed tissue is nearly always extensive enough to cause serious dyspnea, great enough at times to necessitate immediate tracheotomy.

The laryngoscopic appearances of the growth usually show a smooth prominence below the vocal cords, over which they move freely and to which they do not seem to be attached. The swelling occupies the hypoglottic space on one or both sides or posteriorly, and in some instances may be seen extending down the trachea in a shadowy way, as the growth in the larynx permits but little light to pass below it. The swelling has a normal color and shows no evidence of inflammatory conditions.

ENTRANCE OF THYROID TISSUE INTO LARYNX AND TRACHEA.

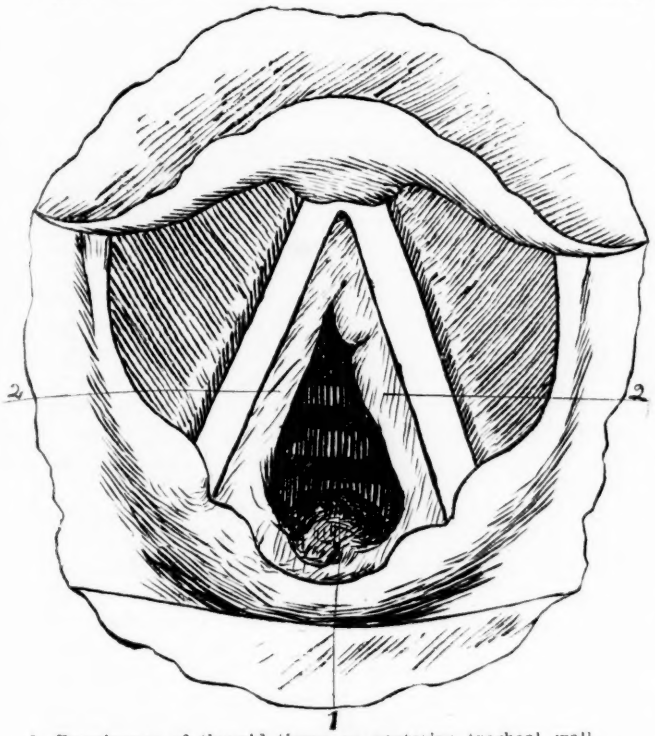
How does the thyroid tissue enter the larynx and trachea? Up to the time of the report of Paltauf's case the accepted theory was that this thyroid tissue was due to aberration of the embryonic rudiments of the thyroid gland producing an accessory thyroid gland in the larynx, such as is rather often found at the base of the tongue. The postmortem examination of Paltauf's patient, however, showed that this theory was untenable. The moderately enlarged thyroid gland in his case was found firmly grown onto the cricoid cartilage and the first three tracheal rings so that dissection was needed to separate it. This differed from the normal conditions where the larynx and trachea are separated from the thyroid gland by a layer of areolar tissue. Microscopic examination showed that the deeper connective tissue of the submucosa, and the inner perichondrium clear to the cartilage, were infiltrated with the follicles of the thyroid gland. The space between the cricoid and first ring of the trachea, with a piece of the attached thyroid gland, showed direct connection between the inner and outer tumor. The thyroid tissue could be seen to grow into the external perichondrium of the trachea and through the interstitial spaces between the tracheal rings and in this way reach and intimately join the tumor in the larynx and trachea. The peripheral layer of follicles of the thyroid gland shows the most energetic proliferation normally, especially at puberty, and if the normal layer of fascia separating the thyroid gland from the larynx and trachea has been omitted in the development of the individual, the thyroid follicles are liable to invade the interstitial spaces between the cartilaginous rings and, by their infiltration, enter the lumen of the larynx and trachea. An actual perforation of the walls of these air-passages is not necessary and has so far not been found. This mode of direct invasion of the tracheal and laryngeal lumen is the one advanced by Paltauf and Baurowicz, and as it has also been accepted by Paul Bruns it seems the correct explanation of the morbid process. Bruns' latest case, in fact, was a strong confirmation of this view, as the thyroid isthmus was found firmly attached to the anterior wall of the trachea directly over the site of the tumor removed by laryngotracheotomy.

Prognosis.—The prognosis of the affection is good if the growth is removed by operation, as the new tissue shows no tendency to reform afterward and, as the

* Read before the Chicago Laryngological and Climatological Association, Nov. 15, 1900.

wound is a clean one and not one in inflamed tissue, there is little danger of complications following the operation.

Diagnosis.—The diagnosis presents great difficulties. Baurowicz thinks that fibroma, if of broad base, ecchondroma or adenoma might come into question. Though rare enough in the upper larynx, fibroma and adenoma scarcely occur in the subglottic space. One in this location, however, could only be diagnosed from thyroid tissue by the microscope. If it could be touched with a probe the hardness of ecchondroma would differentiate it, though portions of a thyroid tumor may be exceedingly firm. Cricoid perichondritis secondary to syphilitic, tubercular or typhoid ulceration presents an entirely different picture and can not come into question. Metastatic or primary idiopathic perichondritis of the cricoid cartilage might resemble thyroid tumor in appearance; the inflammatory symptoms and local tenderness accompanying these affections and the septic etiology in metastatic perichondritis ought to suffice to distinguish them. In my opinion the condition most likely



1. Prominence of thyroid tissue on posterior tracheal wall.
2. 2. Thyroid tissue in subglottic region.

to be confounded with subglottic thyroid growth is chronic subglottic laryngitis, or chorditis vocalis inferior, as it is also called. In fact, my first diagnosis of my own case was this, a diagnosis confirmed in a meeting of the Chicago Medical Society by all the laryngologists present. The points of similarity in subglottic laryngitis are the appearance of a smooth swelling in the subglottic region and a history of dyspnea with exacerbations which may have lasted a long time and which is often so great as to make tracheotomy at once necessary. The differences are the bilateral location of the swelling in subglottic laryngitis and its continuity with the vocal cords. Though the swelling in laryngeal or tracheal thyroid tumor is usually unilateral, my case shows that it can be diffuse and surround the subglottic space symmetrically, in a manner precisely like that of subglottic laryngitis. The tumefaction in subglottic laryngitis is seen to be a part of the lower portion of the vocal cord and to partake of its motions. The upper surface of the cords is also apt to show swelling and congestion, while the cords in thyroid growth are normal in appearance, almost always freely movable and not connected to the growth. Hoarseness is usually not present, while it is a not uncommon symptom in subglottic laryngitis. As a general rule the local appearances in subglottic laryngitis are those of a diffuse swelling in the hypoglottic space, while the appearance of intralaryngeal thyroid tissue is that of a broadly attached tumor in most cases. It can be seen, therefore, that the points of dissimilarity are not striking enough to permit a diagnosis in all cases without a microscopic examination.

Treatment.—The treatment of thyroid growth in the larynx or trachea usually requires laryngo-tracheotomy. The inaccessability and firmness of the growth, together with its broad base, make endolaryngeal methods impracticable. If, as in my case, the patient refuses a cutting operation, relief may be afforded by removal of pieces of the tissue through the tracheotomy opening, or through the glottis if possible. After the cricoid cartilage and tracheal rings have been split as far down as the tracheotomy wound, the growth can be cut off from its base with the knife or scissors. Bleeding is not great, and after three weeks, as a rule, the wound will be found healed, without trouble. The growth can not be enucleated, as it really forms part of the tracheal or laryngeal wall, but has to be shaved off from its base.

Case.—The history of my case is as follows: The patient, a woman of 32, was first seen in December, 1897. She had had attacks of hoarseness every second or third winter since her childhood. Her voice was always a little hoarse. In the winter of 1897 she was very hoarse for some weeks, and for the first time noticed that this was accompanied by a sense of suffocation and wheezing in the windpipe. All of these symptoms left her during the summer. In December, 1897, the wheezing and feeling of choking returned, and it was so bad as to alarm her and make her fear to go to sleep. Two months later this sense of suffocation had lessened, but the stridor of laryngeal stenosis could be heard when the patient breathed a little harder than usual. Laryngoscopy showed the larynx normal above the subglottic region. The vocal cords looked natural and were freely movable. Just below the true cords one could see a thickening of mucous membrane forming a ledge which projected into the lumen of the larynx around its whole circumference, forming an irregular ring with a narrow central opening. Just below the vocal cords this ledge was most prominent, looking like a second pair of vocal cords below the true ones. The thickening, as could be seen, extended down the trachea for three or four rings, forming a prominent tumor projecting from the posterior wall and preventing vision farther down. Palpation showed almost complete absence of the thyroid gland in spite of the fact that the patient was very thin, had a long neck and palpation of its structures was therefore very distinct. The subsequent history of the patient was interesting and contained some exciting events. An attack of laryngo-tracheitis caused her so much distress on account of the accompanying swelling narrowing still more the small opening in the trachea she ordinarily had at her disposal for breathing, that she decided something must be done for her, but refused any cutting operation, so the measures taken had of necessity to be endolaryngeal ones. As I had used electrolysis in the larynx for the removal of papillomata, with success and no appreciable reaction or swelling, it seemed to me that it would offer a safe means for the removal of a portion of the obstructing swelling below the glottis. With the help of cocain, the introduction of the negative pole in needle form into the prominence was quite easy. A current of 15 milliamperes was used for four minutes, with scarcely any pain. The next day there was no noticeable reaction, but on the second, subglottic swelling developed to such an extent that it became necessary to perform immediate tracheotomy. The

swelling in the subglottic space subsided after about two weeks, though the result of the electrolysis was insignificant, but a small slough coming away. I had expected a better result as a similar current in the skin would have produced a large slough. A second attempt with the electrolytic needle did not add much to the result, though the lumen left in the larynx by the subsidence of the swelling was undoubtedly larger than before the operation. As the growth on the posterior wall of the trachea seemed responsible for the greater part of the dyspnea, I succeeded in getting my patient's consent to remove as much of this as I could through the tracheotomy wound. By means of the wire snare and a pair of Fränkel's forceps it was possible to take away the greater part of the intratracheal swelling, the most prominent part of which was situated at the second and third tracheal ring; this, when seen under the microscope, proved to be typical thyroid tissue. I repeatedly seized the swellings in the subglottic region with Scheinmann's cutting laryngeal forceps, from above, but the great firmness of the tissue made it impossible to remove even the smallest piece. After this the patient went about with her tracheotomy-tube, as her experience with suffocation made her feel unsafe without it, for though her breathing could be carried on quite well without it, she feared another attack of swelling and suffocation. She still refused operative measures from without, so I attempted to reduce the subglottic swelling with the galvanocautery, and, though I succeeded in introducing a cautery electrode into the growth from above, the result was infinitesimal. It is difficult to use instruments with accuracy in the subglottic region, and the necessity of avoiding injury to the vocal cords made it possible to burn only a very little at a time. The patient finally left me, improved but not daring to take out her tracheotomy-tube. I heard of her through others whom she consulted, and presume that perhaps by this time she has consented to a laryngo-tracheotomy, the only operative measure of value in this condition, as the thyroid tissue can only be removed by being dissected out.

I hope that my description will lead to the recognition of other cases of this kind which may be less rare than supposed. The fact that my patient had no appreciable thyroid gland in her neck leads to the supposition that a great part of it at least was represented by the extensive amount in her larynx and trachea, an amount greater than in most of the cases heretofore reported. Though in the other cases the thyroid tissue is described as forming a tumor, in mine its diffuseness made such a term inappropriate, it being rather a thick lining for the entire cricoid circumference and extending in the same manner down the back of the trachea. The only tumor-like formation was the prominence on the back of this that was removed.

In a recent article myxedema is described as following the removal of thyroid tissue at the base of the tongue, so it seems possible that the thyroid tissue in unusual situations may perhaps take the place of the normal gland. In regard to the power possessed by thyroid elements to penetrate and grow in other structures than the proper capsule of the thyroid gland, Dr. Christian Fenger, in a personal communication, mentioned a case in which the thyroid tissue had penetrated the lumen of the jugular vein. Dr. Fenger regards the microscopic specimens obtained from my case as typical thyroid tissue.

My experience with electrolysis in the subglottic region would make me hesitate to use it there again unless the patient had had a previous tracheotomy. A bipolar electrode, if it could be introduced, would doubtless be better than the monopolar one employed by me. Electrolysis would be an excellent method to employ for ecchondroma in this difficult region. On account of its loose areolar tissue the hypoglottic region is much more apt to react after irritation by inflammatory swelling than the larynx proper. The connective tissue, in the specimens presented, forms a much denser network than that of the normal thyroid gland, a fact which accounts for the great firmness presented by the growth.

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OPEN TREATMENT OF SUPPURATION OF THE KNEE-JOINT.*

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In the January, 1895, issue of the *Annals of Surgery*, Dr. C. H. Mayo reported a case of acute suppuration of the knee-joint, which he had treated July 30, 1894, by a transverse incision across the front of the joint in the same manner as for excision. This enables the surgeon to get at every part of the joint, converting its many recesses into a simple open cavity. The result of the operation is astonishing. In a few hours a patient in whom an amputation seemed to be the only hope is on the road to recovery; such a procedure gives all the benefits of the mutilating operation without shock or injury to important structures. It must be understood that this method of treatment is for the more advanced cases after the usual measures have been exhausted and amputation appears to be necessary. In most instances the capsule has been perforated and the soft parts above and below the joint are infiltrated with septic material. All of the important structures are in the popliteal space, and a transverse incision through the patella enables the surgeon to pack the joint with gauze, and treat it as an open wound. By going through the patella, secondary sutures are given a firm support after the infection is under control. The abscesses, if they exist in the soft parts, are freely opened and drained. The margins of the wound granulate rapidly and in from two to three weeks, when the discharge has practically ceased, the cut patella is reunited, the excess of granulations removed and the soft parts allowed to granulate.

Surprising to relate, not all of the cases are followed by ankylosis. If the cartilage of the joint is not eroded considerable motion may be ultimately obtained, although this is a secondary consideration, as the condition is one which threatens life or limb. The reason ankylosis does not always follow is because the adhesions are developed in the same manner as a pannus projects over the cornea and, unless the cartilage is completely covered by the advancing granulation, the portion which remains smooth permits of motion. If erosion of the cartilage has taken place ankylosis will necessarily result no matter what method of treatment is followed.

For the milder cases in which the capsule is intact irrigation with antiseptic solutions or with pure carbolic acid followed by alcohol, as advocated by Phelps, is often all that is necessary. If this fails, lateral incisions, as practiced by Halsted, or tubular drains after the plan of Edmund Andrews, may be sufficient, but there are still a number of neglected cases, especially punctured wounds, in which these ordinarily satisfactory methods are entirely inadequate and the patients have in the past come to amputation or death. Open treatment by transverse incision across the entire front and lateral aspects of the joint gives all of the benefits of amputation without its risks, and saves for the victim a most useful limb. We have practiced this method for six years in a number of cases with the most satisfactory results, and in chil-

* Read at the annual meeting of the American Academy of Railway Surgeons, at the meeting held in St. Paul, Minn., Sept 5 and 6, 1900.

dren have obtained a range of motion from 15 to 60 per cent. of the normal. In conclusion I can not do better than to cite Dr. Arpad Gerster,[1] who says that Dr. C. H. Mayo's suggestion struck him as very plausible, and he has "applied it in two cases. The result has been excellent. As all know, these acute forms of joint phlegmon necessarily end in ankylosis, if, indeed, they do not cause loss of limb or life. The cartilaginous covering of the bones forming the joint is destroyed and, therefore, ankylosis is inevitable. Knowing this fact, the surgeon in adopting this method of treatment frankly accepts the necessity for ankylosis. The road then becomes very clear. The treatment consists in laying the joint open by a transverse incision, extending from one condyle to the other, just as a joint is laid open for resection. Then as many more incisions are made as may be necessary, in order to open up every collection of pus or fluid in or about the joint. The capsule in all of these cases is very intumescent and swollen and for this reason occludes all drainage tubes in a way to make retention inevitable. Then lay the joint freely open, removing or not removing tissues, as the case may be, pack and drain every recess, and treat it as an open wound. It is astonishing how rapidly the phlegmonous process ceases when compared with other methods of treatment. After the symptoms of active inflammation have subsided, the joint is put in proper position and ankylosis is allowed to take place."

Since these remarks by Dr. Gerster, this method of operation has been applied in a large number of cases at Mt. Sinai Hospital, New York City, with the most satisfactory results.

QUANTITATIVE TESTS FOR PROTEOLYSIS.*

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(Concluded from p. 808.)

The first table herewith presented gives the results of investigations on students who were free from subjective and objective evidences of stomach trouble, except for some transient disturbances of function as noted. The test meal throughout this series consisted of 50 grams of dry bread, 5 grams of butter, and 250 cubic centimeters of cold water, taken as a noon meal and removed by siphonage from sixty to ninety minutes after the completion of the meal. In no instance were remnants of breakfast found. In eleven of the sixteen examinations, syntonin was either altogether absent or present in the merest trace. The maximum precipitate was 20/100 c.c. in 10 c.c. As the qualitative examinations showed some slight variations from the theoretic normal, it was with some surprise that the following facts were deduced: 1. The presence of a measurable quantity of syntonin, was not connected with a failure of free HCl. In every one of the instances showing excess of syntonin, HCl was present by the resorcin and cane-sugar test. Conversely, HCl had all been fixed in three of the cases which were most typical so far as amount of syntonin was concerned. Hence, no generalization could be made as to the relation between proteolysis, at this stage, and presence of free HCl. 2. The excess of syntonin was connected with no conspicuous failure of ferments. However, it must be admitted that no attempt was made to carry out a test of ferments at every examination and that our tests for ferments are exceedingly crude and unsatisfactory. 3. The excess of syntonin was not connected with an excess of lactic acid. The test employed was that with ferric chlorid masked by gentian violet, as recommended by Hewes, of Boston, and others. This test seems just delicate enough to detect an excess of lactates without reacting to the small proportion normally present after ordinary test-meals. 4. The excess of syntonin was not connected with an abnormality in carbohydrate digestion. 5. The excess of syntonin was not in relation with the amount of chyme present at the time of extraction. 6. The excess of syntonin was not due to the time at which the stomach was emptied, within the limits of sixty and ninety minutes after the meal. 7. Of the five occurrences of a measurable amount of syntonin four were in the case of one subject.

Three cases showed albumose only in traces, the remainder varied between 5/100 and 20/100, eight yielding almost exactly 10/100 c.c. in 10 c.c. of filtered chyme. This variation seemed entirely within physiologic limits and without obvious cause.

Only nine of the series were treated with phosphomolybdic acid, the earlier examinations showing only the inapplicability of tannin and unmodified mercuric salts. One of the nine cases yielded a precipitate of peptone amounting only to 40/100 c.c. in 10 c.c. of filtered chyme, but the stomach contents could not be extracted until after dilution. The remaining eight cases varied between 110/100 and 290/100. Careful study failed to explain this wide variation. Disregarding the sample obtained after dilution, the maximum and the minimum of peptone were found in stomach contents which corresponded almost perfectly in other respects. Several control tests showed that, in the absence of starch, the precipitate of peptone with phosphomolybdic acid is almost exactly six times as bulky as that obtained with tannin. Calculating with this coefficient, three more cases may be added to the eight and the conclusions drawn are corroborative of the other results, namely, that the peptone precipitate is normally between one-tenth and three-tenths of the volume of the filtered chyme, if phosphomolybdic acid is employed.

In regard to other tests carried out in conjunction with the proteolysis, one or two observations should be made. The apparent absurdity of noting an absence of free acids in general while free HCl in particular is present is explained by the different sensitiveness of the respective tests. Benzopurpurin, according to the writer's investigation, is the most sensitive of the aniline dyes for general free acidity. Next in order comes Congo-red. The others thus far employed are so far inferior either in delicacy or in distinctiveness of color change, that they need not be considered. The series of observations on normal individuals corroborates the conclusions reached by Hewes, of Boston, based on a similar but larger series, namely, that the small bulk of chyme assigned by German writers as normal, after the test breakfast, does not hold good for Americans.[1] The totals obtained by the writer varied from 35 to 200 c.c., the average being 83, at least double the amount formally taught as normal. Although every precaution was used to secure the thorough emptying of the stomachs, it is obvious that any possible error must be in the direction of minimizing the bulk of the contents.

While a larger series of observations will be necessary to determine details, especially as to the proportions of

1. Tran. of N. Y. Surg. Soc., xxii, p. 503.

* Awarded First Gold Medal in Medicine, by the Prize Committee of the AMERICAN MEDICAL ASSOCIATION, at the Fifty-first Annual Meeting, held at Atlantic City, N. J., June 5-8, 1900.

1. Boston Medical and Surgical Journal, 1897.

the various proteids to be expected at different times after different test meals, the following conclusions are warrantable so far as the test breakfast is concerned, the stomach being evacuated within the usual limits of sixty and ninety minutes.

1. The proportions of the three stages of proteids do not vary materially during the third half-hour of digestion, nor according to moderate variations in other respects, in normal individuals.

2. Syntonin is most typically represented by a mere trace. It should not exceed 20/100 c.c. in 10 c.c. of filtered chyme.

3. Albumose, by ammonium sulphate, shows the same limits, but is most typically represented by 10/100 in 10 c.c.

4. Peptone, by phosphomolybdic acid, is most typically represented by 150/100 to 200/100 c.c. in 10 c.c., but may vary between 100/100 and 300/100.

While the precipitate by phosphomolybdic acid is peculiarly bulky, that by tannin is fairly comparable with the precipitates of the lower proteids. The use of various reagents, especially for albumose and peptone, will afford support for the most contradictory statements regarding the amount of these substances formed. Ewald's statement that very little true peptone is formed by the stomach, has already been referred to. Hemmeter, of Baltimore, on the other hand says: "In normal digestion, one hour after the test-breakfast, propeptone," (albumose), "is present only in trace or, usually, is not to be detected at all." The results obtained in the present series are, in a sense, contradictory to both of these statements but comparisons can fairly be instituted only when investigations have been made following the same technic. At present, clinical students of digestion are greatly hampered in their attempts at scientific work by the lack of expert chemical authority on phases of digestion which appeal strongly to the practitioner, but have not as yet interested chemists. The chemical crudities of the present paper have not been allowed to pass as final without a diligent effort to secure corroboration or revision at the hands of local and other American chemists, but it has not been possible to find more exact information than that already given.

In considering the second table, comprising the results of examinations on pathologic cases, it should be remarked that, while the meals and the period of digestion varied widely, the conditions of digestion of dissolved particles of albumin—with which the present study of proteolysis is concerned—do not vary so widely. That is to say, when the gastric juice has attacked a particle of albumin, whatever the time after the meal, the successive stages of peptonization require just about the same delay, while the proportion of the higher products is limited by absorption. Even Boas' discovery regarding the difference of the stages of digestion of meat albumin on the one hand and of egg and plant albumin on the other, assumes relatively less importance when the various intermediate products between syntonin and peptone are precipitated by ammonium sulphate. Under normal conditions, active hydrochloric acid and ferments are present in about the same proportion during the entire period of digestion of any mixed meal, barring the preliminary hour or so. Thus while the amount of proteid food taken may modify the proportion of free HCl and while the latter factor may, in turn, exert a marked influence on carbohydrate digestion in the stomach, the conversion of albumin is not materially influenced unless, by overtaxing the capacity of the stomach, the secretion of gastric juice becomes relatively insufficient or unless a genuine defficiency or excess of secretion or some other pathologic factor is introduced. Penzoldt's investigations as to the course of digestion after the most varied meals support this theory. Rosenheim's curves of acidity for various meals show distinct differences as to abscissas of time and ordinates of hydrochloric secretion when the curves after various test meals are contrasted. But if we change the position of the perpendicular axis, in other words, allow a little longer for the preliminary stage of digestion in hearty meals, the various curves present insignificant differences throughout the active period of digestion. Thus, it is really possible to institute comparisons without demanding absolute correspondence as to kind and amount of food, time of withdrawal of sample, state of starch digestion, etc.

One possible fallacy must, however, be borne in mind. The amounts of the end-products of digestion, maltose, peptone, and probably the higher albumoses also, in the case of the stomach depend on two opposite factors—digestive activity and absorption. Thus it is always puzzling and sometimes quite impossible to determine whether a large amount of an end-product signifies good digestion or poor absorption. It ought also to be admitted—though many excellent authorities do not—that

TABLE 1.

Number.	Duration of Digestion; hours.	Amount, c.c.	Free Acid.	HCl	Lactic Acid.	Starch	Erythrodextrin.	Maltose.	Rennet.	Egg Test.	Albumin by Heat	Albumose ... $(NH_4)_2SO_4$	Peptone Phosphomolybdic.	Peptone by other Reagents.	Remarks.
1	1	60	Yes.	Yes.	Slight.	No.	Yes.	Yes.	Yes.	Yes.	20/100	5/100		5/100 $HgCl_2$	All stomachs normal in location.
2	1	75	"	Slight.	No.	Yes.	"	"	"	"	5/200	12/100		Trace "	
3	1¼	50	No.	No.	"	No.	"	"	"	——	Trace.	Trace.		" "	
4	1½	80	Yes.	Marked	"	Yes.	"	"	"	Yes.	20/100	10/100		" "	
5	1½	40	"	Slight.	Yes.	No.	"	"	"	——	Trace.	8/100		30/100 tannin	
6	1	90	"	Yes.	"	"	"	"	"	——	"	15/100		21/100 "	
7	1½	25	"	Slight.	No.	Yes.	"	"	?	Yes.	"	Trace.		5/100 $HgCl_2$	
8	1	20 diluted	No.	Yes.	"	"	"	"	Yes.	——	"	10/100		40/100 tannin includ. starch	
9	1	40	Yes.	"	"	No.	No.	"	"	——	5/100	Trace.	290/100		Total proteids 45/100 tannin.
10	1¼[1]	200	"	"	"	"	Yes.	"	"	——	Trace.	20/100	200/100		
11	1	100	"	"	"	Yes.	"	"	——	——	2/100	20/100	160/100		Total proteids 30/100 tannin (total acidity 47%; free HCl 5%; resorcin indicator)
12	1	160	No.	No.	"	"	"	"	Yes.	——	Trace.	10/100	190/100.		Total acidity 67%.
13	1¼	150	"	Trace.	"	"	"	"	——	——	"	10/100	180/100.		Total acidity 56%.
14	1½	100	"	Trace.	"	"	"	"	——	——	"	10/100	220/100.		Total acidity 55%.
15	1	50	"	Yes.	"	No.	"	"	——	——	"	10/100	110/100.		
16	1¼	25	"	No.	"	"	"	"	——	——	"	6/100	150/100.		

Test meal for all in Table 1: 50 grams bread, 5 grams butter, 250 c.c water. A —— indicates that a test was not made. All were young, healthy medical students, all male except the last.

1 Also took glassful of wine some minutes after test-meal.

TABLE 2.

Number.	Name.	Test Meal.	Duration of Digestion; hours.	Amount of Chyme, c.c.	Free Acid.	Free HCl.	Lactic Acid.	Starch.	Erythro-dextrin.	Maltose.	Syntonin, heat.	Albumose $NH_4 2SO_4$	Peptone phospho-molybdic.	Other Reagents for Proteids.	Total Acid. per cent.	Free HCl. per cent.	Diagnosis.	Rennet.	Egg Test.
1	R. B.	Bread, butter and 250 c.c. water for R. B. intervals, 2, 4, 7 and 10 days between meals.	1	300	Yes.	Yes.	No.	Yes.	Yes.	Yes.	20/100	5/100	240/100	Taret solution; peptone 4/100	86	53	Hyperchlorhydria and supersecretion.		
2	"		1	500	"	"	"	"	"	No.	20/100	20/100	240/100	Total proteid 30/100.	90	56			
3	"		1½	330	"	"					20/100	Tr'ce	140/100	Peptone 20/100	96	58			
4	"		1	250	"	"	No.	No.	Yes.	Yes.	20/100	5/100	120/100	Peptone 10/100	86	61			
5	"		1½	150	"	"		Yes.	"	Tr'ce	20/100	2/100	150/100		81	50		Yes.	Yes.
6	J. L. J.	The same meal; interval of two days between.	1	50	"	"	No.	No.	"	Yes.	Tr'ce	10/100	100/100	Peptone 5/100	90	62	Hyperchlohydria.	Yes.	Yes.
7	"		2	50	"	"		"	"	"	"	10/100	360/100	Peptone 30/100	148	96			
8	F. J. O.	Graham bread, coffee and cream, 250 c.c. oatmeal, cream, toast, mixed breadstuffs, bread, butter, 250 c.c., water same. Intervals, 75, 50, 62, 115 and 50 days between tests	6½	80		No.	No.			No.	30/100	Tr'ce		Peptone 10/100					
9	"		4½	30	"	Yes.	"	"	"	No.	Tr'ce	40/100	"	70/100	Total proteid 30/100 by tannin.	108	55	Atonic dilatation and subacidity relieved at about time of second examination.	Normal at sev. previous tests.	
10	"		6¼	30	"	"	"	"	"	"		25/100	"	52/100						
11	"		1	40	"	"	?	Yes.	Yes.	Yes.	20/100	2/100	110/100						
12	"		1½	60	"	"		No.	"	"	20/100	10/100							
13	"		1	50	"	"	Yes.	"	"	"	35/100	15/100	180/100	Peptone 10/10 by tanret.	76	4			
14	A. T. M.	Meat, bread, 250 c.c. water; one week interval.	3½		No.	"		"	No.	"	20/100	Tr'ce		Peptone 11/100 by tannin.			Dilatation and catarrh, hepatic sclerosis.	Yes.	Yes.
15	"		3½		"	"		"	"	"	20/100	"	133/100	Peptone 20/100 by tannin.	32	5			
16	G. W. T.	No. 16 same as No. 14; hearty meal for Nos. 18 and 18; intervals, 22 and 11 days.	2		"	No.	No.	"	Yes.	"	15/100	5/100		Peptone 15/100 by tannin.			Atonic dilatation and hypochloridia.	Yes.	"
17	"		4		"	"	"	"	"	"	Tr'ce	Tr'ce	175/100	Total proteid 50/100 by tannin.					
18	"		1	450	Yes.	"					"	10/100	85/100	Total proteid.	29	0			
19	H. L. B.	Same as No. 1	1	60	"	Yes.		No.	Yes.	Yes.	15/100	2/100	90/100				Atonicity, hypochlorhydria		
20	B. K.	Same as No. 1	1¼	50	No.	Tr'ce	Yes.	"	No.	No.	20/100	5/100	60/100				Hypochlohydria	Yes.	Yes.
21	H.	Same as No 14	1¾		"	No.	No.	"	Yes.	Yes.	5/100	25/100		Peptone 20/100 by $HgCl_2$.			Cancer	"	"
22	R.	Bread and milk	5	500	"	"	Yes.	"	No.	"	30/100	Tr'ce	180/100	Peptone 40/100 by Tanret solut'n	58	0	Cancer	"	No.
23	Mrs. P.	Chicken, bread and butter	1⅓	75	"	"	"	"	"	No.	None	15/100	500/100	Total proteid 40/100 by Tanret.	118	0	Hyperkinesis		
24	W. F. V.	Same as No. 1	1¼	80	Yes.	Yes.	No.	"	Yes.	Yes.	20/100	10/100	260/100		104	43	Slight dilatation, syphilis.		
25	F. K.	" " "	1		No.	No.	"	"	"	"	20/100	Tr'ce	210/100		66	0	Chronic gastritis.		
26	G. L.	" " "	1	40	"	"		"	"	"	20/100	3/100	375/100		69	0	Chron. gastritis and erosions		
27	"	" " " 15 days interval	1	50	Yes.	Yes.	No.	"	"	"	20/100	2/100	280/100		72	2			
28	C. L. B.	" " "	1⅔	200	"	"	"	"	"	"	Tr'ce	Tr'ce	2/100	270/100	90	13	Atony.		
29	J. J. M.	Two slices of toast, butter, 250 c.c. water.	1	50	"	No.	Yes.	"	"	Yes.	None	Tr'ce	280/100	Peptone 20/100 by tannin.	85	0	Chron. scolecitis, healed gastric ulcer.	We'k	
30	"	Eggs and cereals.	3½	300	"	"	"	"	No.	No.	Tr'ce	20/100	300/100		85	0			
31	Mrs. J. P.	One slice of bread, butter and 250 c.c. water.	1½	100	"	Yes.	Yes & ac'tic	"	Yes.	Yes.	10/100	3/100	200/100		75	2	Gastroptosis, movable right kidney.		
32	Dr. R.	Same as No. 1	1¼	90	"	"	Tr'ce	"	"	"	Tr'ce	10/100	200/100		60	29	Hepat. sclerosis, slight gastric dilatrt,on.		
33	Mrs. Mc.	" " "	1¼	40	No.	No.	Yes.	Yes.	"	"	3/100	Tr'ce	80/100		40	0	Gastric hemorrhage. Cancer?	We'k	
34	Miss P.	" " "	1¼	70	"	"	No.	No.	"	"	None	"	260/100		43	0	Subacid dyspepsia.		
35	G. A. Mc.	" " "	1½	50	Yes.	Yes.	"	"	"	"	25/100	"	145/100		99	64	Hepat. scler., gastr'c catarrh.		
36	A. C. C.	" " "	1¼	40	"	"	Slig't	"	"	"	5/100	2/100	320/100		66	23	Slight gastric dilatation.		
37	M. B.	" " "	1¼	130		No.	Yes.	"	"	"	30/100	10/100	100/100		22	0	Ulcerating gastric cancer.		
38	A. J. S.	Four slices of bread, butter, 250 c.c. water	1½	123	No.	"	No.	"	"	"	None	3/100	270/100		70	0	Gastroptosis, mov. rt. kidney.		
39	S. McJ.	Fifty g. bread, 5 g. butter, 250 c.c. water.	1¼	40	Yes.	Yes.	"	"	Yes.	"	25/100	3/100	130/100		84	15	Incipient hepatic sclerosis.		
40	L. V.	Same as No. 1	1¼	80		No.	Slig't	Yes.	"	"	20/100	Tr'ce	200/100		70	0	Subacid dyspepsia (simulating hypercolorhydria.		
41	Mrs. J. S.	" " "	1¼	60	Yes.	Yes.					20/100	"	200/100		96	9	Atonic dilatation (persistent pyrosis).		
42	Mrs. E. L.	" " "	1½	100	"	"		No.	Yes.	Tr'ce	12/100	12/100	1		76	12	Chronic typhlitis, flatulent dyspepsia.		

In Cases 34 to 42, rennet test good, except in 37, in which it was lacking. Egg digestion not tried.

1 Abundant (centrifuge broke).

we have no reliable test for absorption. The tests with potassium iodid and methylene blue involve so many unknown quantities that only a great divergence from the empiric normal standard is significant. In such extreme cases we need no scientific test. In view of the quite general dependence that has been placed on the test by titration of solutions of sugar or other absorbable substances, that have been left in the stomach for some time, a few words of refutation may be in order. As is well known, such a solution is found by titration, after siphonage, to be more dilute than when poured into the stomach. Thus it has been claimed, 1, that no absorption of water occurs through the gastric glandular membrane; and 2, that by titrating the solution and comparing with a previously established standard, absorption can be accurately measured. The writer has proved that during ordinary lavage an amount of water, equal approximately to the total contents of the stomach, is lost either by absorption or by passage through the pylorus. Judging by auscultation, the escape of liquid through the pylorus under any circumstances short of nearly complete closure, is an important factor. While loss by absorption from the stomach is usually mainly of soluble solids, not of water, it is by no means certain that the stomach never absorbs water and the assumption of such a hypothesis is prima facie evidence of the unreliability of a quantitative test. In the case of R. B., of Table 2, the test meal was diluted by gastric juice to the extent of about 100 per cent. It is altogether likely that a similar dilution would have followed the introduction of a solution of an absorbable substance introduced to test gastric absorption. Even if the test solution happened to be of the same bulk when withdrawn as when introduced—not counting the increments of water used in this method to insure thorough evacuation—it would be altogether probable that there had been loss of volume by passage through the pylorus and compensatory secretion. To speak in mathematical terms, the loss through the pylorus, the removal by absorption and the addition by secretion are unknown quantities. Furthermore, they are irregular variables that are not functions of one another. Yet the attempt has been made, not only to make these three variables constant quantities, but to assign a definite value to one of them, through the solving of one equation, involving knowledge of the original strength of a solution and its content after removal from the stomach after a certain delay.

Referring to Table 2, it may be of interest to discuss the cases somewhat in detail. The case of R. B. was one of supersecretion and, essentially, of hyperchlorhydria. Although the proportion of free HCl was not beyond the normal maximum—unless we accept the very low standard of hydrochloric acidity adopted by Dr. Reed, of Philadelphia, and some others—the formation of acid by the gastric glands was actually large and the symptoms included local irritation of the gastric wall as part of the local condition present. The digestion of starch was about as would be expected *a priori*. The abatement of the hyperchlorhydria is seen rather in the diminution of the total volume of the stomach contents than in a percentage change of acidity. Throughout all five tests the proportion of syntonin was at the normal maximum, as if the first stage of proteolysis, which is essentially one of saturation with acid, had been crowded on the later stages. The variation of albumose was within normal limits, but no satisfactory explanation of the difference between the several examinations can be advanced with our present knowledge, unless, perhaps, to suggest that, as the time after the meal increases the intermediate stages are more rapidly passed through. The fact that the amount of peptone varied in general according to the amount of stomach contents might be interpreted to mean that the excess indicated poor absorption rather than good digestion, still the variation was within normal limits.

The case of J. L. J. was also one of hyperchlorhydria, but without supersecretion. The titration of the second sample was repeated to verify the unusually high acidity which is the maximum observed by the writer in any case.

The case of F. J. O. represents, for the first three examinations, diminished motility. The case was originally one of atonic dilatation of the stomach with achlorhydria, but, at this time, the stomach had returned to normal size and the hydrochloric secretion had been nearly normal for some weeks. It is scarcely necessary to state that the emptying of the stomach on these three occasions was undertaken for therapeutic reasons, otherwise more typical test meals would have been ordered. However, they do not differ materially, except in bulk, from the standard Ewald breakfast or the slight modification adopted by the writer. At several other treatments during this period the stomach was found nearly or quite empty. The last three test meals were taken and removed under circumstances that allow a fair comparison with Table 1. Unfortunately, the loss of a reagent bottle prevented the application of the usual test for peptone on one occasion. Whether on account of the difference in meals and duration of endogastric digestion or because of the improvement that actually occurred, the second set of three examinations shows that the balance has swung from lower to higher stages of proteolysis. A comparison between the last three examinations and the results of Table 1 show that further improvement in the same direction is to be desired. (The patient has since made a good recovery.)

The case of A. W. M. was somewhat similar, but the delay of the chyme in the stomach was due to actual present dilatation. The patient came from a considerable distance and the railroad time-table prevented the use of a test-meal adapted to withdrawal after an hour. On this account the patient would take a test dinner before leaving home and have it withdrawn immediately on reaching the office. While undiluted chyme was obtained for examination, it was not possible to empty the stomach except after adding water, so that an exact measurement of the contents was impossible. Probably they did not exceed 100 c.c. in any instance. It has already been explained that even if the increment of water is measured before introduction, an exact estimation of diluted stomach contents can not be made. The relative increase of peptone coincided with marked subjective improvement and a rapid diminution of the size of the stomach. At subsequent examinations after the same meal the stomach was always found practically empty.

G. W. T., H. L. B., and B. K. represent nearly identical conditions of subacidity and atonicity. On the whole, they show a relative diminution of peptone.

In the two cases of cancer it was impossible to regulate the tests to correspond at all with the others, and they are reported merely as isolated observations which may acquire some value with a better understanding of the subject of proteolysis. The case of R. was noteworthy in two respects; the rennet test several times resulted normally while the attempt to digest egg albumin after adding HCl failed. This observation is

contrary to the general belief that the two ferments rise and fall together, so that coagulation of milk may be employed as an easy, though indirect, test of peptic power. The second point deserving attention is that the patient, first seen in consultation during November, showed an increasing pyloric stenosis with obstinate constipation and the return of food and drink by vomiting. About Jan. 1, 1899, the diagnosis of cancer was verified by the finding of cancer nests microscopically in the wash-water of the jejune stomach. After this the pyloric stenosis rapidly abated, the patient gained somewhat in weight, the stomach returned to normal size, vomiting became infrequent and it is only recently (note made April 28) that the signs of stenosis have been again manifest. (The patient has since died.)

Mrs. P. had passed the test breakfast into the intestine by the end of the first hour, so that, for the next meal, meat was added. The rapidity of the passage of food through the stomach is shown here, also in that only 75 c.c. remained of a meal amounting to about 400 c.c. Her stomach was somewhat larger than normal, but under the circumstances it might be more appropriate to use the term "megalogastria" rather than dilatation to describe her condition, the latter term being usually associated with more or less gastric stagnation. The digestion of the dissolved starch had been completed and all the maltose absorbed, yet the precipitate of peptone made up half of the volume of the filtered chyme The large combined acidity, with total lack of free HCl, is probably in intimate relation with these two facts. This case shows the maximum of peptone production observed by the writer.

W. F. V. was the patient of a neurologist, referred for examination on account of complaint of gastric symptoms. The analysis and physical examination failed to reveal stomach trouble. It will be noted that the quantitative estimation of proteids, though rather high in each instance, did not pass the normal limits.

F. K., who had previously suffered from atonic dilatation of the stomach with obstinate subacidity, remained well for two or three years and then presented himself with typical symptoms of hyperchlorhydria. The result of the examination shows how erroneous this preliminary diagnosis was and emphasizes the impossibility of making accurate diagnoses of gastric troubles by symptomatology alone. Proteolysis was practically normal, though syntonin was rather high.

G. L. presented no peculiarities beyond those clearly shown in the table. It may be said in general that the pathologic series shows a higher average of the preliminary proteids and a variable condition of peptone.

C. L. B. represented what may properly be termed a nervous dyspepsia, as, even after the restoration of his gastric motor function, he continued for some time to complain of symptoms of stagnation.

J. J. M. showed at several previous examinations a marked diminution of hydrochloric acidity, even after two or three hours of gastric digestion. He had an attack of what was described by his home physician as subacute scolecitis, toward the close of his treatment for the gastric condition. The latter was regarded as an independent affection, not a reflex from the bowel, on account of a distinct history of hematemesis. In spite of this interruption, the subsequent course of the gastric lesion was favorable.

Mrs. J. P.'s case was remarkable in that there was not a general splanchnoptosis, in spite of the marked prolapse of the stomach—the lesser curvature being just above the umbilicus—and the movability of the right kidney. The esophagus was dilated, 250 c.c. of distinctly esophageal mucus being vomited at one time and the gastro-diaphane kinking without reaching the stomach, its stiff end of nearly two inches having turned within the esophagus.

Dr. R., in spite of considerable subjective discomfort and of the physical abnormalities of the stomach and liver, showed a good and consistent chemic condition.

Mrs. Mc.'s examination also resulted consistently, except that stagnation was not in evidence.

NOTES ON CHEMIC EXAMINATIONS.—Acidity in No. 9 was taken from similar sample next day.

In Nos. 1, 7, 13, 24, resorcin and sugar used as indicator for free HCl; in others dimethyl-amido-azobenzol. The former method is more tedious, but more accurate. Phenolphthalein used as indicator for total acidity in all examinations. Percentages refer to c.c. of n/10 NaOH solution, as compared with number of c.c. unfiltered chyme.

Diagnosis in Nos. 21 and 22 made from microscopic recognition of fragment of tumor. No. 21 died eight months after this examination.

Combined HCl by alizarin, 66 per cent. for No. 23, 25 per cent. for No. 24; in Nos. 25 and 26, free HCl perhaps disguised by presence of blood from siphonage. In No. 27, combined HCl, 45 per cent.

THE RAGE FOR RAPID OPERATING AND THE IMPORTANCE OF SAVING TIME IN SURGICAL OPERATIONS.

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The question of time consumed in surgical operations is an important one. In the pre-anesthesia days time meant much to the unfortunate victim, whose vitality or resisting power was already reduced by nauseating and depressing drugs, such as infusion of tobacco, opium, etc., given with a view to benumbing the sensibility of the patient, who was frequently held by a corps of powerful assistants, or fastened to the operating-table by straight-jackets, straps or other devices. Dexterity and speed on the part of the surgeon then were indeed desirable factors to the shrieking and suffering patient.

The introduction of anesthesia lessened the necessity for speed, and also removed the disturbing elements which may have interfered with the accurate fulfilment of delicate operations. Anesthesia, when properly induced, produces a tranquility in the patient, operator, and assistants, which is highly essential for the proper and successful progress of the operation. In this, however, many surgeons permit themselves to drag in their work, and for the time seem to forget that the state of general anesthesia is a dangerous one and that not a minute should be wasted. It is a well-established fact that prolonged anesthesia is a retarding element in the convalescence of the patient. This is the more prominently exemplified in a complicated abdominal case, in which the resisting power of the patient has been stimulated to a point when it is estimated that the patient has a chance to survive the operation. The anesthesia, exposure and manipulation of the peritoneal cavity for from one-half to three hours, with a physically bankrupt patient is a very important factor in the prognosis. These facts being accepted, time is as important an element to success as asepsis or correct methods in operating.

It is quite common in hospital clinics for the operator to lecture to his class while leaning over his work, and, frequently straightening up to address the students, and thus many valuable minutes are lost. A very wise practice is now being introduced in the German clinics. The professor operates, while one of his clinical assistants lectures to the class, or *vice versa*. The operator can thus concentrate his mind on the important task before him. Professor Albert, of Vienna, lectured to the students while his assistant, Ewald, operated. This method is advantageous to both patient and student. But few are endowed with the ability to lecture and operate simultaneously.

An operation should be done with despatch, without the semblance of undue haste or attempt at show, flourish or brilliancy. Such "speed" should be consistent with good conscientious work and the best results. Despatch in surgical operations is often misconstrued as haste and carelessness by jealous rivals. The operator is rapid whose equipment is thorough from his anesthetizer and first assistant to the application of the safety-pin which secures the final turn of the bandage. He accomplishes his object who does not allow his plans to be modified by suggestions from visitors or guests, who is prepared to promptly combat any emergency that may arise, who operates deliberately, who does not drop his instruments on the floor, and who, in picking up an instrument from the tray, does so for a definite purpose. Such an operator knows what he wants two or three stages in advance, and gives his orders accordingly, so that there shall be no loss of time. His assistants are well trained ("team work") and comprehend his wants by a look or gesture, thus avoiding misunderstanding, conflicting orders and collisions.

It is in the saving of the minutes and avoidance of unnecessary delays that the minimum amount of time is consumed in performing the operation. Such methods should constitute "rapid operating."

VENEREAL DISEASE AS A SOCIAL PROBLEM.*

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When studying medicine I was taught, not only by one but by many, that if I would attain to the greatest degree of success in the profession I must treat every patient who presented, no matter what his social position or standing, age, or other condition, as if he were infected with venereal disease until I had proved to the contrary. At that time I could not fully credit the statement and questioned the observation of the men who made it. I entered practice about ten years ago, in a town with an average population of 500, which for all practical purposes of this paper is an ordinary country village, isolated from the rest of the world and a great distance from any city. There was no house of prostitution in the township, and no public prostitute has existed within its borders since my residence there, but time and experience have convinced me that my teachers were right in their statement.

Syphilis is a terrible disease and is so recognized by the laity, while the great majority regard gonorrhea as a trivial affection. To my mind it is tenfold more terrible than syphilis, while both diseases cause untold suffering to innocent parties, and during my very limited experience I have seen several blind from the disease. The year I entered the town a young man from one of the best families graduated from one of our schools; a few years later, while on a business trip outside, he contracted gonorrhea, was treated and, as he supposed, cured by a frieend who had suffered several times in the same way. Soon after his return home he was married to a young woman whom I remember as a bright, robust, rosy-cheeked schoolgirl. Since then I have treated the man for stricture and his wife for all the evils following a gonorrheal infection of the pelvic organs. She is pale, anemic, a daily sufferer, and spends nearly a week out of each month in bed. Without children, in a beautiful home, she will drag out her life of misery and suffering.

A farmer's daughter, whom I remember as a beautiful schoolgirl, a perfect type of physical strength, two years ago married a man who bragged of the number of times he had contracted gonorrhea. Soon after marriage her troubles began, her strength failed and physical exertion became a source of discomfort and pain until she was unable to do her own housework. A few months ago I operated on her for pelvic peritonitis.

A year ago I knew a man, with a wife and four children, who possessed a good income and a happy comfortable home. He contracted gonorrhea, infected his wife before he knew it, became frightened and used so-called heroic treatment, and is now at Mt. Clemens under treatment for gonorrheal rheumatism, his wife is in a Chicago hospital to undergo an operation for salpingitis, the home is sold to pay the expenses, and the children are cared for by strangers.

I would ask my hearers to lay aside all prejudice and consider this subject in the true scientific spirit, going back to the fundamental underlying principles: 1, the passions actuating those who keep this evil in existence; 2, the breeding of children and the hereditary mental influence to which they are subjected; 3, the want of police and medical supervision through a morbid sentiment and a lack of knowledge in a class which wields the greatest influence.

I will first define a passion as a certain movement of the mind which not only influences, but predominates and controls the entire organism. What is the one supreme passion in man? What is the one supreme passion which actuates and controls, not only man, but all living organisms, without which, if suppressed, all life would soon cease to exist? The answer is plain—the sustenance of life. The passion which ranks next to this and nearly equals it in power is the propagation of life. If either of these passions were suppressed all life would soon cease to exist. They are unchangeable laws of Nature and no arbitrary law of society can suppress them or control them except to a very limited extent. These facts should never be lost to sight. Prostitution finds the reason for its existence in one of these passions, and if society would protect itself from the evils arising from prostitution it must study the subject carefully and act on reason instead of prejudice.

I believe much of the evil can be prevented and, as the acme of medical science is the prevention of disease, that this problem is pre-eminently one for the attention of the ASSOCIATION. It can not be left to the church, as she is unable to cope with it, and her influence, when brought to bear on this subject, has invariably been unsatisfactory. Churchmen are educated along different lines, seldom taught to differentiate fact from theory, or to reason from effect to cause, and they appeal largely to the sympathies and prejudices of those whom

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they would influence. Frequently, in times past, a few individuals have made a careful study of this phase of social life and succeeded in passing laws in some communities which have greatly mitigated the evils to which I have called attention, but the church has usually succeeded in sweeping them off the books.

Prostitution has existed under every social system of which the world has knowledge. Lecky, in his "History of European Morals," says: "Under these circumstances, there has arisen in society, a figure which is certainly the most mournful, and in some respects the most awful upon which the eye of the moralist can dwell. That unhappy being whose very name is a shame to speak, who counterfeits with a cold heart the transports of affection and submits herself as the passive instrument of lust; who is scorned and insulted as the vilest of her sex, and doomed for the most part, to disease and abject wretchedness, and an early death, appears in every age as the perpetual symbol of degradation and the sinfulness of man. Herself the supreme type of vice, she is ultimately the most efficient guardian of virtue. But for her the unchallenged purity of countless happy homes would be polluted, and not a few who in the pride of their untempted chastity, think of her with an indignant shudder, would have known the agony of remorse and of despair. On that one degraded and ignoble form are concentrated the passions which might have filled the world with shame. She remains, while creeds and civilizations rise and fall, the eternal priestess of humanity, blasted for the sins of the people."

While prostitution may be a necessary evil under our present social system, the experience of the past and the opinions of the best posted men in other nations and in our own country, prove beyond question that many of the resultant evils are not necessary and may, to a great extent, be prevented. As a step in this direction, I would suggest the AMERICAN MEDICAL ASSOCIATION invite the most able and prominent men throughout the country, considered to be the best posted on this and relative subjects, to a conference for the purpose of adopting such measures as, in their judgment, will result in the greatest good to the race and to society. I would ask not only physicians but police and other officials from our great cities, and any one who may be qualified to speak with authority on the subject under discussion.

Personally, I believe it is a mistake to try to, and an impossibility to suppress prostitution by passing laws and imposing penalties, but that society may eliminate and possibly eradicate the vice, by means of education and more careful breeding. I am of the opinion that less than 10 per cent. of the children born are the result of an actual desire for children backed by an intelligent study in an effort to breed and raise the best. This would leave over 90 per cent. born as the result of accident, while following the pursuit of physical pleasure, which must certainly have a great influence on the race and on the problems we are now considering. Out of this 90 per cent., a portion will most surely be born with perverted and abnormal instincts and passions.

A physically perfect man, standing high financially, and occupying a prominent place in society, may have a deformed moral nature which he recognizes and covers up, or, again, he has never thought of nor been educated on sexual relations. He marries a refined and highly-cultured woman. Ordinarily a model man, he occasionally finds some jolly companions, winds up with a big spree, goes home drunk, sick, and filthy, revolting to his wife and family. His wife is horrified and disgusted, and while he insists on his marital rights, she loathes the contact but is compelled to submit. If conception takes place what kind of an individual will be developed? If the mental qualifications be derived from the mother, a sexually cold and passionless being; if from the father, possibly the opposite extreme. If the mother feels that conception has taken place, broods over her troubles, becomes reckless, tries to murder the child before it is born and fails, a graver element is added to the hereditary influences acting on the child.

Prostitution is a very great evil and its suppression would be a desirable thing, but so long as a great majority of the children born are subject to the worst hereditary influences associated with the sexual passion, and the question of how to breed and raise the best is seldom considered, I do not think its suppression possible. An individual is what he is born, plus his environment. The environment may be changed, but the other qualifications, such as stature, etc., are unchangeable, except to a very limited extent; therefore, some individuals are no more to blame for being prostitutes than others are for having red hair, or blue eyes. The enaction of proper laws to control prostitution and restrict the evils arising from it, with the best measures possible in educating the coming generations on these subjects, I believe is the best that can be done at the present time.

Social purity should be one of the ideal aims of society, and I believe its nearest attainment will be found through the means of education. Our medical schools should give more thorough instruction in sexual hygiene and physiology. Medical men can have great influence in moulding public opinion and causing people to give their children proper instruction in sexual matters. In a majority of our homes at present, if a child dares to ask a question pertaining to sexual matters, it is either lied to or deceived, or silenced in such a way that its mind receives a great shock. That all living organisms reproduce themselves is a fact which may be taught a child with plenty of every-day illustrations, without any element of sensuality presenting itself.

I think that the most wofully ignorant of all classes on such subjects are the clergymen and teachers, and as they wield immense influence their education should not be neglected; and unless special attention be given to the leaders of the churches, they will oppose all efforts along this line, because the truth runs counter to their pet prejudice on the subject of morality. While the church influence is unsatisfactory in the extreme, it is so through ignorance and prejudice. To those who will investigate this subject farther and wish positive and definite information, I would suggest a study of Lecky's "History of European Morals"; Sanger's "History of Prostitution"; Wier's "Lust and Religion"; Lydston's "Text-book of Venereal and Sexual Diseases"; and such other books as will suggest themselves in reading these.

Removal of Great Lengths of Intestine.—Blayney (*Dublin Journal of Medical Sciences*, March) reports a case of removal of 8 feet 4½ inches of intestine from a boy, aged 10. He had been run over by a wagon loaded with grain, the wheels passing over the lumbar region while he was lying on his face. Laparotomy was performed seventeen hours after his admission to the hospital and he recovered, but suffers from looseness of the bowels and occasional vomiting, and exhibits also an abnormally great appetite. From an analysis made on thirty-three of his cases in which over one meter of intestine was removed from human subjects, he concludes that where less than 6 feet 6½ inches are removed, intestinal symptoms are, as a rule, absent, but where more, present.

CIRCUMCISION IN RESTRICTING THE SPREAD OF SYPHILIS.*

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CHICAGO.

There is difference of opinion as to the mortality of the chief venereal diseases, syphilis and gonorrhea. The latter was, until quite recently, regarded as purely local, but after the gonococcus was identified and cultivated, it was found that general infections were frequently caused by this organism. Pleurisy, meningitis, myocarditis and peritonitis, and of late a gonococcemia have all been indentified. These considerations force the conclusion that gonorrhea is not the innocent local disease it was formerly thought to be, with complications largely of a mechanical nature, such as stricture, etc. There will probably be a widening conception of the disease-producing power of the gonococcus, since it has been recognized that, in common with other germs, its pathogenic power depends upon a toxin and not upon the germ itself. The observations of Young show that in many cases the gonococcus can be identified by cultivation when it has escaped detection by centrifugalizing fluids, spreading and staining.

Hyde and Montgomery, in their work on venereal disease, say that gonorrhea and its complications have a mortality greater than syphilis. We are quite sure that the neurologist will deny this. As a matter of fact, neither is in a position to judge the mortality of these affections in their true light. To the andrologist comes those complications of the genito-urinary tract with ascending infection of the urinary tract. These form a group that leads him to think that gonorrhea is one of the most deadly diseases that affects the human race. The acute cases that are cured and have no relapse, in his own practice as well as in that of others, do not return, and, hence, his experience largely deals with cases having severe and lasting complications. The neurologist, looking over his case books, finds the enormous incidence of syphilis in grave disorders of the nervous system, and comes to the conclusion that syphilis is one of the most deadly affections of the human race. The large number of cases that escape involvement of the nervous system do not come under his observation. The same thing is true of the operating gynecologist, who largely fails to see those cases which are not infrequent in practice, in which the gonococcal infection is followed by a comparatively slight reaction in the urethra or the vagina, and subsides without involving the tubes or the endometrium.

It is not profitable to argue as to the comparative deadliness of these two infections, when they are both responsible for so much preventable suffering. Their legal restriction has been attempted in other countries, and legislation has been proposed and at times initiated in this country, looking to a restriction of the venereal diseases. It is proposed to effect a sort of quarantine against infected individuals, giving the health authorities plenary jurisdiction in such cases. The system of inspection of houses of prostitution in continental cities and registration has been revolting to the Anglo-Saxon, and its efficacy in restricting the spread of gonorrhea is doubtful. An infected person may convey gonorrhea long after all local signs have disappeared, and even after microscopic examinations of the secretions fail to show the gonococcus. Hence mere inspection is of little value, while microscopic examination of secretions is impracticable because of the time required. Cultures would identify the germ if present, but these consume more time than the ordinary spread and stain. In restricting the spread of syphilis, inspection would be of value.

While the profession is studying the restriction of venereal diseases, I would especially call its attention to the literature bearing on circumcision. This operation is known to enormously lessen the case incidence of syphilis. It is free from risk, and does not inflict any disability on the individual; on the contrary, the operation is a decided gain, even if it had no influence in directly lessening the venereal diseases. It does away with phimosis, balanitis, and tends to prevent hernia and rectal prolapse, as well as a frequent train of nervous symptoms which follow a constricted and adherent prepuce.

A comparison of the condition of the glans and the preputial fold in those who have been circumcised and those who have not, reveals a striking difference. In the uncircumcised the ducts at the frenum become clogged with secretions, the mucous membrane of the glans is sodden and easily excoriated. Once a solution of continuity is formed in the epithelium, the retained secretions form an admirable culture-medium. It is surprising how few statistics there are bearing on this subject, but those that are at hand conclusively confirm the immense importance of circumcision in preventing the spread of syphilis. Jonathan Hutchinson[1] gives the following table showing the incidence of syphilis and gonorrhea in a series of hospital cases, one-third of whom were Jews.

	Total Venereal Cases.	Gonorrhea.	Syphilis.
Not Jews	272	107	165
Jews	58	47	11

Freeland[2] speaks of his experience with the Peninsular and Oriental Steam Navigation Company, as ship surgeon. He never remembers having seen a primary syphilitic chancre among the Lascar crews, who were invariably circumcised, while venereal diseases other than chancre were very common among the circumcised. He gives the following table to show the relative frequency with which primary infection occurs on the prepuce:

	No. of Initial Lesions.	No. on Prepuce and Furrow.	Percentage on Prepuce and Furrow.
Fournier	423	314	74.2
Clerc	325	234	71.6
Berkeley Hill	150	111	74.0

Perhaps it is too much to say that all of the 73 per cent. of cases which occur on the prepuce and in the furrow would be prevented by circumcision, but certainly a large proportion of them would, and the enormous reduction, even if it were estimated at 50 per cent., would so far lessen the case incidence of syphilis and the reduction of hereditary and accidental infections, as to make the universal adoption of this operation one of the leading hygienic factors in improving the physical condition of the race. It may be argued that there is some fallacy in these figures. In a recent number of the *Journal of Mental Science*,[3] it is stated that the proportion of general paralytics among the Jewish population of the London asylums is much larger than in other races. If we assume that syphilis is the chief factor in the production of general paralysis, we may well ask ourselves why, if this infection is less common among Jews, general paralysis should be more frequent?

* Read before the Physicians Club, Chicago.

1. Freeland: The Lancet, Dec. 29, 1900.
2. Ibid.
3. October, 1900, vol. xlvi, No. 195.

Several arguments might be advanced in support of the view that syphilitic infection is less common among Jews, and, at the same time, general paralysis is more frequent. It may be that those exciting factors that play such an important rôle in the production of general paralysis are relatively very frequent among the Jews A further possibility is that other forms of insanity are comparatively rare, thus reducing the total Jewish population of the asylums, but relatively increasing the number of paretics. In view of these possibilities, the argument loses its effect as against the prophylactic value of circumcision in preventing the spread of syphilis.

Many in our profession, realizing the disastrous effects of syphilis, have earnestly advocated the legal regulation of prostitution. In view of the doubtful efficacy of registration and examination, I would earnestly invite their attention to the figures contained in this paper. It is an operation that is simple, devoid of mortality or disfigurement, against which nothing can be said, and which has as a result, if universally applied, a lessening of the most disastrous of venereal diseases from 50 to 75 per cent. I earnestly hope that they will give attention to this matter, and throw the weight of their authority in favor of the operation. It is a practical means of reform, ready to hand, and its application is within the reach of every physician.

REPORT OF THE SPECIAL COMMITTEE OF THE SECTION ON STATE MEDICINE OF THE AMERICAN MEDICAL ASSOCIATION.

APPOINTED TO INQUIRE WHETHER AND WHEN THE GONORRHEIC MAY BE PERMITTED TO MARRY, AND WHETHER THE MATTER IS A PROPER ONE FOR REGULATION BY STATUTE.

The resolutions under which your Committee was appointed directed the following inquiry: 1. Whether the gonorrheic can be so treated and so far cured that he can be allowed to marry with safety to his wife. 2. If he can be so cured, what are the forms of treatment best calculated to cure, the period of time which should elapse and the physiologic reactions which will positively determine the question of his fitness?

QUESTIONS SENT TO GYNECOLOGISTS.

To the gynecologists who more than any others deal with the remoter and more serious results of the disease, the following list of questions was submitted: 1. What proportion of the cases of pelvic inflammation coming under your care are attributable to gonococcal infection? 2. In what proportion of these cases, if any, has infection resulted where the man had been pronounced cured by a competent physician after thorough treatment and careful bacteriologic examination? 3. In what proportion of cases in the female is gonorrhea curable so that the patient is no longer infectious? 4. In what proportion of cases is sterility traceable to gonorrheal infection?

Drs. P. D. Jacobs, of Brussells; S. Pozzi, of Paris; Prof. V. Czerny, of Heidelberg; Drs. Heywood Smith and Granville Bantock, of London; E. H. Grandin, H. J. Boldt, P. Sherwood Dunn and Paul F. Mundé, of New York; A. J. C. Skene, of Brooklyn; Barton C. Hirst, Charles P. Noble, J. M. Baldy and Joseph Price, of Philadelphia; J. W. Bovée, J. S. Stone and H. L. E. Johnson, of Washington; Ely Van de Warker, of Syracuse; W. D. Mann and C. C. Frederick, of Buffalo; J. F. Baldwin and F. F. Lawrence, of Columbus; W. H. Wathen, of Louisville; Hunter Robb and W. H. Humiston, of Cleveland; Joseph Eastman, of Indianapolis; Henry T. Byford and E. C. Dudley, of Chicago; A. Lapthorn Smith, of Montreal; James A. L. Ross, of Toronto; Emory Lanphear, of St. Louis, and H. Kreutzmann, of San Francisco, replied by letter, and by reprint, Dr. Reuben Peterson, of Grand Rapids. A reply from one New York gynecologist came unsigned, and while your Committee tabulated his returns, they have not been able to satisfy themselves of his identity.

Drs. Abraham Dudley, of New York; Henry O. Marcy, of Boston; E. E. Montgomery, of Philadelphia, and Professor Leopold, of Dresden, acknowledged the receipt of the questions, but excused answering them on the ground of the press of other work. Dr. Marcus Rosenwasser, of Cleveland, in a letter, in which he stated that he had so far kept no tabulated record along the lines of the inquiry suggested by the Committee, made the suggestion that gynecologists keep an especial record for one, two or three years from now on with a view of answering such questions, the diagnosis in each case to be corroborated by microscopic or bacteriologic test, concluding that a collective report along such lines would, in his judgment, furnish data from which approximate conclusions could safely be drawn.

QUESTIONS SENT TO GENITO-URINARY SPECIALISTS.

To the genito-urinary specialists the following list of questions was sent: 1. Is gonorrhea curable—so curable that the physician can confidently say to his patient: "You may marry now. You run no risk of infecting your wife?" 2. In what proportion of cases is it so curable: *a*, in anterior urethritis; *b*, in posterior urethritis? 3. What methods of treatment in your experience give the most prompt and certain results: *a*, in acute cases; *b*, in chronic cases? 4. What period of time should elapse after the disappearance of the last evidence of the presence of the gonococcus before the patient should be allowed to marry? 5. Upon what tests do you rely in order to determine positively whether the patient is wholly free from the gonococcus and is no longer infectious?

Replies have been received from Professors A. Neisser, of Breslau; E. Fuerbringer, of Berlin; H. Feleki, of Budapest; N. Jadassohn, of Berne; E. Burkhardt, of Basel; E. Finger, of Vienna; S. Rona, of Budapest, and P. Tommasoli, of Palermo; Drs. J. Verhoogen, of Brussels; J. de Keersmaecker, of Antwerp; Charles Audry, of Toulouse; A. Guepin, and P. Nogues, of Paris; Charles W. Cathcart, of Edinburgh; Gardner Allen, of Boston; Eugene Fuller, Herman Klotz, James P. Tuttle, Edward L. Keyes, Charles H. Chetwood, Ramon Guitèras, and George E. Brewer, of New York; H. M. Christian, William White and Edward Martin, of Philadelphia; Roswell Park, of Buffalo; William T. Corlett, of Cleveland; William Judkins and A. Ravogli, of Cincinnati; G. Frank Lydston, Joseph Zeisler and W. T. Belfield, of Chicago; C. E. Burnett and Bradsford Lewis, of St. Louis, and George Chismore, of San Francisco. Drs. Max Melchior, of Copenhagen, and Orville Horwitz, of Philadelphia, replied by reprints.

EFFECTS OF GONORRHEA ON THE FEMALE.

The portion of the work assigned to Dr. Dickinson was greatly delayed by her necessary absence abroad, and the returns have come in only partially, and not in time for anything like complete collation. The questions submitted were as follows: What are the effects of gonorrhea on the female? 1. Are the vulvovaginal and periurethral glands infected? 2. Are the urethra, bladder, ureters and kidneys infected? 3. Is the rectum infected 4. Is the myometrium infected, cervical and corporeal? 5. Is the endometrium infected, cervical and corporeal? 6. Is the endosalpinx infected? 7. Is the pelvic peritoneum infected? 8. Are the lymphatic vessels and glands which drain the genitals and rectum infected? 9. Is there any affection of the joints single or multiple? 10. What are the other effects? 11. Should gonorrhea be recognized by statute and, if so, what should be the substance of the law?

The answers to questions 1 to 10, inclusive, are simply corroborative of the answers to the questions submitted by the chairman to the gynecologists. Most simply answer "yes," but Winslow Anderson, of San Francisco, gives his reply in percentages, as follows: 1. The vulvo-vaginal glands and Skene's glands of the urethra are infected in fully 75 per cent. of my cases. 2. The urethra is infected in about 40 per cent., the bladder in 10 per cent., the ureters and kidneys in about 2 per cent. 3. The rectum is infected in about 2 per cent. (Lydston, and one other who forgot to sign his name, qualify by stating that this occurs only in perverts where coitus is practised per rectum.) 4. The myometrium, cervical and corporeal is infected in about 50 per cent. of cases. 5. The endometrium, cervical and corporeal is infected in about 90 per cent. of untreated cases. 6. The endosalpinx is infected in about 25 per cent. of untreated cases. 7. The pelvic peritoneum is infected in about 25 per cent. of untreated cases. 8. The lymphatics are infected in 25 per cent. 9. The joints are infected in from 1 to 2 per cent. of my cases. 10. The other effects are septic absorption, which destroys the red blood-corpuscles, causing leukemia, and septic anemia with deterioration of the red blood-corpuscles and hemoglobin. (Newman adds: "Sterility, ophthalmia neonatorum, etc."; Canney,

"sterility, endometritis"; Harsha, "sterility more or less permanent, endocarditis, fixation of uterus and adnexa, etc."; Orendorf, "invalidism and sterility"; Burr, "endocarditis"; Matos, "all the serosæ, pleura, peritoneum, meninges, etc."; Steele, "resulting sterility and relapsing invalidism," and Kales, "perioöphoritis as well as the conjunctiva of the patient herself or her new-born child if she has one. The latter infections I hold to be of considerable medicolegal importance.")

VIEWS OF THE GYNECOLOGISTS.

1. *Pelvic Inflammation and Gonococcal Infection.*—In reply to the question as to the percentage of pelvic inflammation traceable to gonococcal infection, there seems to be a very wide diversity of opinion among gynecologists. The widest is between Van de Warker, who in forty years has seen but two cases where gonorrhea invaded the tubes; Bantock,[1] who sees no reason to change his views expressed in a paper read before the Section of Obstetrics, Medicine and Gynecology, at the annual meeting of the British Medical Association, in Birmingham, July, 1890; Cathcart, who, after 4½ years' work in the Lock wards of the Edinburgh Royal Infirmary, maintains that "the majority of those who have suffered from disturbances of the menstrual function have not been affected more severely than one expects to find in a similar number of women who lead regular lives," although he admits that "there certainly have been a few cases of undoubted salpingitis and ovaritis"; and Humiston, who finds that, "without classifying doubtful cases as gonorrhea, 90 per cent., at least, of pelvic inflammatory troubles are attributable to gonorrhea, the infection being usually of a mixed character—gonococcal with some one of the pyogenic micrococci," and Joseph Price, who says that in over one thousand sections for pelvic suppuration, 90 per cent. were traceable to gonorrheal infection, and that 90 per cent. of those histories are reliable and clear. Czerny regards it as impossible to tell. Boldt estimates from 5 to 8 per cent., admitting it a guess. Ten per cent. is the estimate of Skene, Robb, Eastman and Bovée. Dunn gives the same percentage for private cases, and Jacobs—5000 private cases—gives 10 to 12 per cent. Johnson says "a large majority"; Wathen, "nearly all of the cases"; Byford, "in majority," and Mann, "nearly all" of those who have not borne children; Heywood Smith, differing from his English confrères, finds many cases of salpingitis and ovaritis due to gonococcal infection, and Barton Hirst also finds the number large. The estimate of Pozzi and Frederick is 75 per cent.; 60 per cent., that of Lapthorn Smith and Stone; 50 to 75 per cent., the estimate of Baldwin; 50 per cent., that of Watkins and Lawrence; Ross, 50 per cent., omitting sepsis following labor, and Noble, while giving 50 per cent. as his estimate, is under the impression that it is too low. Dunn finds 33 to 55 per cent. in charity hospital work; Lanphear, not to exceed 25 per cent., excluding prostitutes; Kreutzmann, at least 33 per cent.; Baldy, 33 per cent.; Grandin, 20 per cent.; Jacobs—7000 cases—18 per cent., in polyclinic cases. E. C. Dudley, while giving no estimate as to percentage, has found not infrequently the gonococci in the tubes removed.

Diverse as these estimates are, the weight of evidence bears unmistakably toward the conclusion that gonococcal infection is a very considerable factor in the causation of the inflammatory diseases of the pelvic organs in the female, and that, as Peterson aptly remarks,[2] "the more the disease is studied in women, and the greater the improvements in bacteriology, the higher is to be found this percentage."

2. *Infection from Patients Pronounced Cured.*—As to the second question regarding infection by men where the cases had been pronounced cured after thorough treatment and careful bacteriologic examination, a large majority responded that they have no data. Baldwin knows of but few instances where such examination has been made, but one such was followed by prompt infection. Mann knows of but two cases; Jacobs gives 2 to 5 per cent.; Eastman, 5 per cent.; Noble recalls three cases; Hirst has seen it recur a number of years after the man was pronounced cured. E. C. Dudley does not estimate the proportion, but states that many wives of such men have salpingitis. The gonococcus is not uniformly found; it may never have been present, or other germs may have taken its place. Wathen states that many are so infected, but that physicians seldom make correct examinations, hence their opinions are not reliable. Byford finds the infection usually from recent cases or complicated old ones. Lanphear has known a large number of infections where the man has not waited long enough, and where no bacteriologic test had been made. Humiston, while giving no estimate, inquires, very pertinently: "How many physicians do make careful bacteriological examinations?" Price says: "In a large percentage—over 50 per cent., in married women"; Lawrence, "Very difficult to determine, but probably about 20 per cent." Jadassohn states that when, after thorough treatment and repeated and thorough bacteriologic examinations, he has concluded that a man is cured and, as he has often done, has permitted marriage, he has never come to know of a single infection that has taken place following the marriage. Finger, likewise says: "With a very extensive" —genito-urinary— "practice and numerous candidates for marriage I have, as yet, seen no case where a person, permitted to marry as cured, has infected his wife." Frederick says: "I do not know that I have ever known of infection after thorough treatment and the culture tests have been negative; most men, as you know, are pronounced cured when the discharge ceases. If your report can in any way lead the general profession to more fully realize the injustice they are doing by their careless and incomplete treatment of these cases and by the consent to marriage and to intercourse, not having proven that the man is cured, you will merit the praise of all womenkind."

3. *Curability of Gonorrhea in the Female.*—As to the curability of gonorrhea in the female, so that the patient is no longer infectious, there is also a wide diversity of opinion. Johnson says the proportion is very small—"once a clap, always a clap"; Bovée, 5 per cent.; Lapthorn Smith thinks that none are absolutely curable, but in the course of time the infection dies out—the gonococcus kills itself with its ptomains—in all cases. Frederick says: "I have never seen one whom I felt sure was absolutely cured; if we could know all the subsequent history of women after we had treated them we might find that some were cured. I have known men to be infected by women whom I had treated thoroughly and for a long period, thinking them cured. Some men in a sense become immune to gonorrhea. I have known a man to cohabit with a woman for years without infection, and another was infected at the first intercourse with this same woman." Noble regards it as a matter of great difficulty to positively eradicate gonorrhea in the female. Pozzi regards it as "very often" curable. Dunn says: "Where the gonococcus has not invaded the tubes they are all curable." Skene regards all cases as curable where the disease has not reached the body of the uterus and oviducts. Lawrence says: "All if proper treatment be instituted early." Byford considers nearly all as curable "after a long time." Ross says: "No reason to believe that there are any incurable cases in this sense so far as danger of infection of the male goes. While the disease may spread up into the tubes and ovaries and may produce incurable disease in these I am firmly convinced that the vagina remains no longer infectious." This is corroborated by E. C. Dudley, who says: "Many widows who have had gonorrhea from the first husband fail to infect the second husband. I do not recall a case in which a man was infected in consequence of marriage with a widow. If the danger were very great I think more men would suffer. Why should not a man marrying such a widow be as liable as a woman marrying a man with a gonorrheal record?" Watkins believes that nearly all cases are curable "if treated early, actively and especially during the first one or two mentrual periods following the infection"; Wathen, "in nearly every case"; Baldy, "100 per cent." Van de Warker has always found the duration of the disease short and more tractable in women than in men, while Hirst thinks "gonorrhea is apt to remain latent in the female and to be infectious for a long time." Boldt says, "it is curable in nearly all cases and I believe in all if thoroughly and patiently cared for." Grandin states "that if seen in the acute stage, e. g., after infection of uterus, cure doubtful." Robb believes "that all cases if properly treated and if kept under the observation of a competent physician can be cured." Kreutzmann regards it "absolutely curable either with conservative treatment or radical operative procedures." Humiston's opinion is that "every female can be freed from gonorrheal infection by proper procedures, the vagina and uterus readily, the Fallopian tubes and the Bartholini glands may require complete extirpation." Price says: "Incurable if the diseased uterus and appendages remain. Infection rarely occurs after prolonged treatment of vagina and mucous membrane," and Jacobs concludes as follows: "In the vagina gonorrhea is easily curable, in the cervix with difficulty, in the uterus and peritoneum, incurable except by radical operation." It is Audry's opinion that "in a general way in the case of a woman one can express a great probability in favor of a cure, but one never has a certainty thereof; for the duration may be indefinite, the latency absolute, and the infection manifest quite formidable habits of reviviscence."

4. *Gonorrheal Infection and Sterility.*—As to the extent to which sterility is due to gonococcal infection, Pozzi

says: "It is impossible to say"; Van de Warker states that "the results of an investigation once carried on were negative." Of those giving percentages, Dunn's estimate is the lowest, viz., 3 per cent.: A. Lapthorn Smith estimates 12 per cent. due to the man's gonorrhea, and 21 per cent. due to the wife's. Jacobs gives from 20 to 21 per cent.; Skene, Grandin and Boldt estimate 33 per cent.; Bovée, 40 per cent., as also does Ross; Stone, Lanphear, Price, Frederick and Mann give 50 per cent.; Noble, 66 per cent.; Eastman and Baldwin, 75 per cent.; E. C. Dudley, Byford, Johnson, Watkins, Wathen, Boldt and Heywood Smith, without giving any definite percentages, regard the number as very large. Hirst and Robb regards it as the rule where infection has occurred. Humiston and Kreutzmann say that sterility results in every case where ovaries or tubes are attacked, and Czerny believes that "certainly in half the cases the sterility of the woman is to be traced to the husband's gonorrhea."

VIEWS OF THE GENITO-URINARY SPECIALISTS.

1. *Curableness of Gonorrhea.*—As to the first question propounded to the genito-urinary surgeons, viz., whether gonorrhea is so curable that the physician can confidently say to his patient: "You may marry now, you run no risk of infecting your wife," they have without exception responded "Yes." Some of them, however, qualified their answers to a certain degree as follows:

Lydston said: "In the majority of cases"; Chismore, Fuller and Verhoogen, "In the great majority"; Park, "In the majority of cases if the disease is not too extensive"; Ravogli, "If organs which can not be reached by instruments be not involved"; Zeisler, "That depends on a variety of conditions which are not always controllable by the physician"; Allen, "But we can not certainly predict recovery at the outset in any given case"; Audry, "If the physician attends to it diligently and the patient is willing to care for himself as required and for as long a time as is necessary"; Feleki, "Only a small percentage must, in consequence of the uncertainty of the duration of their infectiousness, or in consequence of serious complications, be looked upon as incurable. I estimate this proportion as about 3 per cent."; Guepin, "Gonorrhea (gonococcal urethritis) is curable, but not more so than syphilis, and like it, the physician can never say to his patient that he is absolutely cured"; Jadassohn, "Not curable in such a sense that the physician can indeed undertake to guarantee that no infection will result therefrom, but so that in good conscience he can give an assurance that in all human probability infection is now excluded."

2. *Curableness of Urethritis.*—With regard to the second question, the relative curability of anterior and of posterior urethritis, there is considerable diversity of opinion as to the exact percentage, but a general agreement as to the curability of a great majority provided proper treatment be instituted early and persisted in until the evidence of cure is complete. Finger states that "all are curable." "I have," he says, "as yet seen in my practice no condition in which, with earnest determination on the part of the patient, it has not been possible to bring about a cure." But he also says, "I always follow this principle rigidly; when a patient does not obey my injunctions and take the treatment of the disease seriously; when warnings do not bear fruit, I positively decline to treat him further." Keyes and Chetwood, Belfield, Lydston, Chismore, De Keersmaecker and Audry maintain that practically all cases are curable in so far as infectiousness of the man is concerned, it being understood that time enough is allowed to effect a cure. Fuller expects all to be cured except where tuberculosis or extensive involvement of glands coexist. Burnett says, "100 per cent., if gonorrhea alone be present"; White, "Nearly all"; Martin, "95 per cent. certainly"; Judkins, "85 per cent., but somewhat less in posterior urethritis." All cases of anterior urethritis are regarded as curable by Guitèras, Christian and Tuttle. Klotz regards posterior urethritis not less amenable than anterior, provided the deeper glandular appendages or adnexed organs be not involved; in a large majority of cases both are curable; likewise Allen notes a large majority as recovering, but more in cases of anterior than in posterior urethritis. Feleki finds 2 to 3 in 1000 of anterior urethritis incurable, and from 26 to 28 in 1000 of posterior urethritis. Rona says: "The majority of uncomplicated cases of total as well as anterior urethritis"; Verhoogen, "Anterior urethritis always curable, posterior urethritis with greater difficulty." Neisser gives a good prognosis in anterior urethritis, a less favorable one in posterior. Burkhardt says he sees no acute cases whatever, but in 256 cases of chronic urethritis—all of posterior or total urethritis—reports 245 complete cures. Christian regards a small proportion of chronic posterior urethritis as incurable owing to the involvement of the seminal vesicles and prostate. Guitèras estimates 98 per cent.; Cathcart regards it as most obstinate; Tuttle and Corlett estimate 60 per cent., while the latter estimates 80 per cent. in anterior urethritis. Lewis gives from 80 to 90 per cent. of both, provided that there be no serious complications, but he believes that posterior urethritis is present in the great majority of cases of prolonged gonorrhea, and that it is not properly to be considered a complication, but a natural phenomenon of gonorrhea. Tommasoli gives 93 per cent. in anterior, 80 per cent. in posterior urethritis; Zeissler and Fuerbringer give the lowest estimate, the former holding that a majority are cured in anterior and a minority in posterior urethritis, and the latter giving 50 per cent., and far below 50 per cent., respectively, as his estimate. Jadassohn, speaking of these complicated cases, says: "I personally know of no case where that"—the disappearance of the gonococci—"has not been accomplished, where the patient has not prematurely and arbitrarily interrupted the treatment."

There is no uncertainty therefore in the statement of these physicians, the weight of testimony is unquestionably in favor of the position which has heretofore been publicly taken by one member of your committee, viz., that gonorrhea is a curable disease, curable in every stage, and in a large majority of cases, provided only that the physician exercises due diligence and skill, and the patient cheerfully submit himself to treatment and for a sufficient length of time.

3. *Treatment.*—It is not possible, within the limits of this report, to do even scant justice to the various and accurate details regarding treatment given by your correspondents, some of whom have furnished your Committee with very carefully prepared and full papers. Suffice it to say that broadly speaking they may be divided into two classes: those who employ the Janet method in one or another of its modifications, and those who do not. Whether they employ it or not, these diverse schools of genito-urinary therapeutics all agree upon one point, viz., that the disease is curable if treated patiently, intelligently and persistently, adapting the means to the pathologic condition of the urethra and its adnexa, and to the constitutional idiosyncrasies of the patient. Finger "can not recommend Janet's method of irrigation," but recalls no case of failure to cure. Feleki, who in the very earliest stage uses the urethroscope and through it pencils the affected part and afterward the entire anterior portion of the urethra with a 3 per cent. solution of nitrate of silver, recalls only two or three failures in a thousand in the anterior urethra. Jadassohn, who says that "irrigations . . . without catheters according to Janet's method seem to afford no special advantages, on the contrary often occasion increase of irritation," further says, "the duration of the treatment seems to me the chief factor in all cases and especially those chronic cases in which the tendency is to relapse whenever the treatment is suspended."

On the other hand, Nogues, De Keersmaecker and Verhoogen, claiming the same results as to final cure, are enthusiastic advocates of free lavage with permanganate of potash in the acute stage. All agree that the involvement of the glands of Littre, of Cowper, of the prostate, and of the seminal vesicles, constitute complications requiring especial, prolonged and patient treatment with injections, sounds, dilatations, massage, internal urethrotomy, or even, in some cases, external urethrotomy to effect a cure.

4. *Duration of Gonorrhea.*—As to the question of time limit, Martin, Park, Czerny, Chismore, Fuller, Lydston, Nogues and Corlett mention one year as the proper interval after disappearance of the last gonococcus. Fuerbringer says several months. Six months is Cathcart's limit. Three to six months is the time stated by White, Judkins and Burkhardt. Christian says four to six months; Lewis, three to four; Guitèras, Allen, Jadassohn and Rona, three months. Six weeks to six months from the time the urethral mucous membrane is normal is Burnett's rule. Ravogli prescribes four to six weeks. Guepin's opinion is: "The longer the better." Audry directs three or four weeks in ordinary cases; if, however, there be a slight secretion of the urethra, but without pus, he extends this period to six or seven weeks, but in case the urethritis shows a well-marked purulent secretion, although gonococci have positively disappeared, he requires a period of several months or more, "that is, a lapse of time indefinite, if not infinite." Feleki sets no time limit, but is governed by the absence of pus cells. Tommasoli mentions two to three weeks. De Keersmaecker and Verhoogen judge by the absence of all signs after the usual tests, and Neisser regards the time as a secondary consideration to the fact of demonstrated presence or absence of the gonococcus.

5. *Determination of Cure.*—There is a substantial unanimity in the replies respecting the tests necessary to determine the question whether the patient is no longer infectious. All agree that the examination should be searching, thorough and repeated; that the discharge of the anterior urethra, the posterior urethra, the prostatic secretion and that of the seminal vesicles should be examined separately, and that only on the basis of repeated negative examinations, conducted over a considerable period of time, should the conclusion be reached that the patient is no longer infectious. Jadassohn, however, does not regard beer test and the cohabitation test as necessary to an accurate result, while Cathcart would not recommend illicit intercourse, not considering it justifiable under any circumstances. Most all insist on the absence of pus cells as well as of gonococci. Nogues, Guepin, Feleki, Tommasoli and Lydston in particular call attention to the importance of other pyogenic germs. "The fact is," says Feleki, "that we see cases where men in whom the gonorrhea, from the standpoint of the gonococcus, can be pronounced as positively cured, infect their wives, where nevertheless neither in the man nor in the woman can gonococci subsequently be demonstrated," and further, he says, in regard to such cases, "I hold it as out of the question for the patient to infect his wife with gonorrhea, but in the presence of secretion containing pus, I regard it as possible that the wife can acquire from this husband an infection which is not gonorrheal in character." Nogues says: "Microscopically I do not go so far as to require the absence, in toto, of leucocytes—a thing which is practically impossible, but it ought to be so that they are found only occasionally, and that they be not accompanied by altered epithelium. I must repeat this, that I require the absolute asepsis of this drop"—the "morning drop"—"but I attach a very great importance to this also, that the state of asepsis has not been disturbed by a single attack of secondary infection for a very long time—a year at least." Lydston says: "A patient is dangerous so long as a trace of purulent discharge is present whether the gonococci be present or not; it may not convey gonorrhea, but it is capable of producing non-specific inflammation in a healthy woman which may at any time cause serious pelvic results." Tommasoli is the only one who does not insist on following out these prolonged tests to determine, as positively as can be, the absence of the gonococcus. His reasons are: "1, because bacteriological examination for the gonococcus in chronic urethritis is too deceptive and not sure; 2, because I recognize that there may also exist infective urethritis, acute or chronic, even without gonococci . . . and I do not believe that it is possible in every country to compel the patient to submit to those repeated, multiplied and tedious trials to which Professor Neisser subjects his patients. In my country, where the vivacity and the impatience of patients is such an extreme item, no specialist, I believe, will be able to follow the rules of the school of Breslau, even though he believe them extremely useful." Guepin maintains that "in order to say that the patient is cured it is absolutely necessary that the urethral discharge shall no longer contain a single pathogenic microbe; that the urinary filaments be no longer purulent, and, *a fortiori*, no longer infected; that the products of the submucous urethral glands (glands of Mery in particular) and submuscular (prostate, seminal vesicles) should be normal; the semen ejaculated should also be examined. That methodical examination done after the patient, cured to all appearances, shall have resumed his customary life, while it is of great prognostic value in the majority of cases, still does not warrant the affirmation that the spontaneous reappearance of gonococci is impossible." Neisser sums up the matter as follows: "We do not to-day possess any test or tests which enable us to declare with positive certainty that the patient is wholly free from the gonococcus. When considered from a practical rather than a purely academical standpoint, however, our present methods of examining and 'testing' the patient are such as to deserve our entire confidence, and when these have been carried out in a thorough, careful and intelligent manner by one skilled in their use, the obtaining of a clear negative result will justify the physician in saying to the patient, 'You may now marry; as far as I am able to judge, you will not infect your wife.'"

GONORRHEA AND THE LAW.

The response to Question 11, of Dr. Dickinson's list, shows a pretty evenly divided sentiment as to whether legal restriction should be attempted or not. Winslow Anderson says: "I look upon the sequelæ of gonorrheal toxemia as the most serious complication with which the gynecologist and abdominal surgeon has to deal and something should be done to check the disease, but those who advocate legal restriction are by no means agreed on the best method." Most of them would have rigid and regular inspection of prostitutes, with license of houses of prostitution according to the European fashion. Ridlon would make the wilful transmission of the infection a criminal offense. Steele, Burr and Orendorf would deny license to marry to persons suffering from gonococcal infection. Newman, with a keen recognition of the complexity of the problem, writes: "Laws should be so framed as to secure ample protection to all innocent persons, both women and their offspring, and should be formulated by a committee composed of representatives of both medical and legal profession." On the other hand, Harsha says: "Impracticable to regulate by statute"; Whery, "No. To do so would lead to blackmailing and many social disasters. It is the medical profession and not the law that should repress it." Matos says: "While the gravity of gonorrheal infection justifies its recognition by law, I do not believe that the time is opportune for legal recognition; the subject must still be left in the hands of the profession and to the gradual education of the people to its importance"; Lydston, "I do not believe any statute bearing on gonorrhea would be practical"; Edmund Andrews writes: "In general terms some useful legislation is possible, at least theoretically, but the well-known impossibility of enforcing a law under our present corrupt civil service which has not a strong, watchful and almost unanimous public sentiment sustaining it, renders a good result practically hopeless at the present time. The often suggested plan of having persons appointed to examine physically all candidates for marriage and to decide on their permission would, in our present defective means of keeping examiners above the reach of bribery, blundering and partiality from other motives, wreck any such statute in five years." And, finally, Kales admirably sums up the reasons that prompt so many earnest and honest men to oppose any statutory regulation of the evil, as follows: "Such a serious variety of infections as those listed and known to be propagated by irregular sexual relations may seem to call for legislative interference, or, at least, regulation. Better no law than one which is not or can not be enforced. Public approbation is necessary to the enforcement of such laws. The legal aspect of the question might be divided into: *a.* Laws dealing with domestic immortality. *b.* Laws relative to public immorality.

a. Perhaps the most important laws would be those which aim to protect the innocent woman, or mother, from infection in her marriage relations with her husband. 1. She may be unfortunate enough to marry a man who has an uncured gonorrhea or syphilis and thus either disease is communicated with all its attendant misery. 2. Or she may receive the infection from her husband in later years owing to his dissolute life.

b. Laws which refer to public immorality or prostitution aim to get at the probable sources of infection. Such laws have been in operation in certain countries for many years. The very general opinion is that they have failed, though enforced with the rigor of European police methods.

The times seem foolishly to call for laws which shall suppress or regulate every evil, and these laws are usually impotent according as they are numerous. Their non-enforcement develops lawlessness, and their irregular enforcement is oftentimes a matter of bribery or blackmail. The evils thus developed by over-legislation are often worse than a continuance of the evil legislated against. I should not add a single new law to the statutes, except to amend those which facilitate divorce, and if venereal disease be transmitted, divorce, damage or other penalty should be obtained without unnecessary delay or publicity. Such hearings might be before a judge, and jury of physicians, or laymen and physicians. As regards laws regulating prostitution, I would have none. The general public needs education on venereal and sexual matters by able physicians. It is rare in family practice that the opportunity to give this advice is not afforded one. Advice of this kind should be wholly personal and private, but such counsel usually spreads in the same personal and private manner from one confidant to another and ultimately does much good. Public advice of this kind simply excites morbid sensibility while a confidential interview does much to enable one to get the better of individual weaknesses with no loss of self-respect."

It must be manifest to any one competent to weigh evidence that a disease which is responsible for so large a proportion of pelvic inflammatory diseases and sterility in women is an ailment which demands our conscientious care and earnest consideration as to the best method of stamping it out. We can not but regard it as one of the more serious diseases that

affect humankind—all the more serious in that its graver consequences are usually so remote that the connection between cause and effect has not as yet impressed itself upon the minds of the laity, or even of the medical profession as a whole. Worse yet, the cities teem with advertising quacks and the druggists' shelves are stocked with advertised nostrums that claim to quickly cure this disease so serious in its consequence and so intractable in a considerable proportion of cases. The first duty, then, of the profession in this regard would seem to be to impress the gravity of the disease on the minds of their patients, so far as possible, and, as opportunity offers, on the minds of the public generally. Young men should be taught authoritatively that a man with an uncured gonorrhea is a man dangerous to himself, to his family and to the community; that no acquisition to the "wild oats" period, not even syphilis, is likely to be so fraught with serious results to them and to their families in after life. Whatever may be the outcome of syphilis to the individual, under a proper course of treatment and in a period of time fairly well determined, he may marry with a reasonable prospect of having fairly healthy children, and of not infecting his wife. Moreover, a syphilitic expects to undergo from eighteen months to two and a half years' treatment before he is wholly cured, and submits to it willingly. But with gonorrhea, unless a patient knows by the actual determination of the physician, that the very last gonococcus has been dislodged from his urethra and the glands and organs in connection therewith, he is liable to infect his wife with an inflammation that may cost her her ovaries and tubes, if not her life, and the least penalty that it is likely to entail upon her is hopeless sterility. The sooner these facts are known to young men, and parents, and young women the greater will be the incentive to self-control on the part of young men, the greater will be the reluctance of parents to consent to the marriage of their daughters to men whose characters are not clean, and the more willing will those be who are so unfortunate as to have contracted the disease to submit to the treatment necessary to effect a complete cure.

Your Committee would emphasize the necessity of every physician treating every case of gonorrhea seriously, treating it thoroughly from the beginning, treating it with all the appliances which modern science places at his disposal, and not discharging the patient as cured until every evidence of pyogenic process in the secretions of the urethra or of the adjacent glands has disappeared. The members of the profession should also do their best to enlighten their clientele regarding the serious dangers involved in the use of nostrums prescribed over counters by druggists and sold from their shelves and advertised in the newspapers—nostrums which profess to cure this disease rapidly and completely. The fact should be emphasized that the disease is not necessarily nor even probably cured when the visible discharge and the burning have ceased; that just at that time it may be taking on its most insidious, chronic and intractable form; that just at that time, when the discharge has apparently ceased, is the time it is essential to know positively from a competent man whether the cure is apparent or real, whether there be any disease remaining in the deeper urethra, its glands, or the organs connected therewith.

Aside from the question, whether or not a physician can be legally required or even allowed to report a case of venereal disease, it is doubtful in the minds of your Committee whether any plan of examination of prostitutes or any plan requiring a report to health authorities of cases of gonorrhea occurring in the hands of general practitioners and specialists can be made practicable. The lesions of syphilis are visible to the naked eye, they are obvious, they can be inspected; the gonococcus, however, is microscopic and elusive—so elusive that a person may be infectious and yet half a dozen careful examinations may fail to demonstrate the presence of a single one. While it would be easy enough to demonstrate the infectiousness of a person in the acute stage, it is not through cases in the acute stage that infection is chiefly spread, but from cases which suppose themselves well, hence it is that the only hope we have of suppressing the spread of the gonococcus is by cultivating a general intelligence regarding the danger and the insidiousness of the contagion, and by never discharging a patient from our hands as cured until, after the use of all the means that science has placed at our command, we can say positively that in all human probability he is no longer infectious. Then, and only then, can consent to his marriage be given.

The thanks of the Committee are due to our colleagues in the profession who have so cordially responded to our questions, and to Drs. William Conrad, E. J. Rose, A. Pasini and A. Ravogli for their kindly aid in the translation of the manuscripts in German, French and Italian.

Respectfully submitted,

L. B. TUCKERMAN, Chairman.

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PURULENT OTITIS—ITS TREATMENT AND PREVENTION BY THE FAMILY PHYSICIAN.

H. GRADLE, M.D.

CHICAGO.

The scope of the present paper is defined exactly by its title. It is to present to the practitioner the teaching of modern otology regarding a very important disease, for acute purulent inflammation of the middle ear is so common that the majority of cases, at least among children, are seen by the general practitioner, and not by the specialist. Frequent experience has shown me that the form of treatment which progressive otologists have recognized as the best and safest has not yet been adopted by all general practitioners. Yet it is so much simpler than the less efficient methods so often employed or advised by physicians. It is but the application of ordinary surgical principles to purulent inflammation localized in the ear. Just as in the preantiseptic days, wounds did heal after a fashion, so in incorrectly treated cases purulent otitis will often heal, but delays and unfortunate accidents are much more common. Many an

ear and occasionally a life is lost which a little care on the part of the attending physician would have saved.

The diagnosis of acute purulent otitis is very definite. Sudden earache with some feeling of fulness and moderate deafness leave but little doubt as to the diagnosis. The view of the uniformly reddened drumhead seen through the speculum dispels all doubt. During severe infectious diseases, like measles, scarlet fever and diphtheria, the depressed condition of the patient may mask the onset of the ear symptoms, and it is particularly necessary under these circumstances to wateh for them. Some doubt may arise in a given case whether the disease is the ordinary form of purulent inflammation, which surely terminates in perforation of the drumhead with discharge through the meatus, or whether it may not be the milder or abortive variety in which no perforation takes place. The latter form is much less common. As a rule the prognosis can be made within the first day. When the pain lasts continuously, perforation will surely follow. When the pain is intermittent, perhaps only nocturnal, the exudate may disappear without discharge through the drumhead. It is only when the pain has been distinctly intermittent that surgical puncture of the membrana tympani should be deferred. Otherwise the interests of the patient are best served by immediate paracentesis.

The first demand of the patient is usually for relief of the severe pain. The use of the various popular ear drops, tincture of opium in sweet-oil, camphorated oil and a host of others can not be condemned too severely. They are all utterly useless and have no influence on the pain. No form of application is known which can surely stop the earache of purulent otitis. Carbolic acid dissolved in glycerin—10 to 12 per cent. solution—has a slight benumbing influence in some mild instances, but it is not to be depended on. It may perhaps help to avert perforation in the mild form of cases. It can therefore be endorsed as a palliative and perhaps slightly curative agent, all the more so since it sterilizes the skin of the meatus if left in place sufficiently long. External heat in the form of the hot-water bag or the Japanese stove gives slight but grateful relief. Severe pain, however, can only be controlled by opium internally. The speediest way of obtaining relief is immediate paracentesis.

The curative treatment consists in draining the discharge promptly and efficiently and preventing secondary changes. The effusion is present as soon as the disease manifests itself, and the sooner it can escape the quicker the relief and the milder the course. It has not been sufficiently emphasized that the discharge is serous at the start—at least in most instances—and only becomes purulent later on. The more severe cases, and especially those due to streptococcus infection, may seem exceptions to this rule. In some of these instances mentioned the effusion is purulent when it breaks through the drumhead or even when paracentesis is done after thirty-six hours. I am quite in doubt, however, whether an earlier puncture would not have shown a serous fluid even in these apparent exceptions. When proper treatment is begun during the stage of serous discharge, the latter can be prevented from becoming purulent and the disease will then pursue the mildest and shortest course possible. Not only is its duration shortened, but the liability to complications is diminished. Personally I have never seen mastoiditis supervene in a case in which the discharge remained serous.

The change from a serous to a purulent discharge is in some instances due to later secondary (mixed) infection by bacterial invasion through the meatus, as can be shown by bacteriologic analysis. But I believe that this is only a later accident and that primarily the purulency is due to insufficient drainage of the serous discharge. For whenever the discharge is retained in the midde ear until a late spontaneous perforation occurs, perhaps on the third or fourth day, it is almost surely purulent. Experience thus points out three well-defined indications in the treatment, viz., early paracentesis, efficient drainage, absolute asepsis.

Puncturing the drumhead is an easy, safe operation, for which every practitioner ought to be prepared. The technical details are found in all text-books on the ear. It must be remembered that it causes a sharp, but transient, pain which can not be diminished by any local anesthetic. Before the operation the meatus should be cleansed by syringing if it contains wax or scales of skin, otherwise this is unnecessary. After spontaneous perforation or paracentesis syringing should be avoided. It is useless at best, and if repeated seems to influence the disease unfavorably. If required in order to obtain a view of the punctured drumhead, it should be done with sterile water and under aseptic precautions.

Before paracentesis the meatus should be sterilized in a reliable way. Watery carbolic acid solution may be left in place for at least three minutes, filling the meatus and the auricle. Carbolic acid dissolved in glycerin is not as active a disinfectant and requires a longer time, but its efficacy is increased by previously moistening the walls of the meatus with water. The same sterilization is required before applying the first dressing after spontaneous perforation. For the purpose of drainage, a narrow strip ($\frac{1}{2}$ by 4 inches) of a good absorbent gauze is pushed with a probe through the disinfected speculum into the meatus until it touches the drumhead. The concavity of the auricle is then packed with bits of gauze until a thick pad is formed. As the discharge is sometimes very copious, a large absorbing cushion is required. It may be retained by a strip of adhesive plaster. The external pad should be replaced when it gets moist, which the properly instructed patient can do himself. The strip in the meatus, however, should only be changed by the surgeon once in one or two days. As it is impossible to assure permanent sterility by asepsis alone, it is best to powder the gauze freely with a mixture of boric and salicylic acids (6 to 1). With sufficient thoroughness a serous discharge can thus be prevented from becoming purulent and the patient be saved considerable discomfort, delay and danger. Even when the treatment is begun too late, when the discharge has assumed a purulent character, it is still the best method to insure the most rapid course under the circumstances. Occasionally it happens, especially with a purulent discharge, that the walls of the meatus get macerated. It is best to omit the salicylic acid in such instances, using only boric acid, and to protect the skin by smearing with an oxid of zinc and lanolin salve after thorough drying.

The prevention of acute otitis consists in attention to those influences which are known as causes or predisposing factors and which the family physician can control. The most important of these is the enlargement of the pharyngeal tonsil, or adenoid vegetations. I have observed with much satisfaction that the profession is getting more and more to recognize the importance of this frequent morbid occurrence, and it is only rarely that I now hear the old vicious advice given to patients,

"to wait and outgrow it." Experience has shown in the most positive manner that an enlarged pharyngeal tonsil enormously increases the danger to the ear whenever the child takes scarlet fever, diphtheria or measles or merely acquires an acute nasal catarrh. The family physician should insist, without exception, on the removal of adenoid vegetations whenever they are of sufficient size to produce the easily recognizable symptoms of nocturnal nasal obstruction. The operation is free from risk of any kind and properly done causes very little pain.

A second important influence which often leads to a suppurative otitis is the misuse of the nasal douche. I do not condemn the nasal douche as such. It is a valuable therapeutic method with definite indications. But it should not be advised except for these specific indications, since in other instances it is useless. I do not think that it ought to be recommended by any one not fully familiar with nasal pathology. In spite of numerous warnings by otologists, many physicians are still not fully aware of the dangers of the douche. When water gets into the Eustachian tube a violent otitis is almost sure to follow. Many an ear has been permanently damaged and much needless suffering has been caused by the careless advice to a patient "to syringe out the nose." Worse even than this is the suggestion to snuff up fluids or to pour them into the nose with some spoon-shaped device intended as a substitute for the douche. The different contrivances sold for this purpose have not even the valid excuse which can be claimed for the douche itself. The latter does really remove viscid secretion from the upper part of the nasal cavity, where its presence perpetuates disease. The substitutes do not accomplish this at all, but carry with them all the danger to the ear incident to nasal irrigation.

A physician not well versed in nasal diseases will do better to avoid the nasal douche and to substitute for it the liberal use of the spray from a good atomizer for the purpose of removing secretion. Though less efficient than the douche, it is safe. Its frequent employment, especially in the suppurative rhinitis accompanying the infectious diseases of childhood, lessens to a moderate extent the liability to infection of the middle ear. The material used in the atomizer is nearly irrelevant. It is the mechanical effect, which can only be obtained by a coarse, watery spray, upon which its utility depends.

Clinical Reports.

PRIMARY UNION IN A GUNSHOT WOUND.

REPORT OF CASE.

ALBERT SOILAND, M.D.

LONG LEAF, LA.

S. V. C., night-watchman at a planing-mill, was accidently shot while stooping to pick up an object from the floor, his pistol falling out of its holster and being discharged upon striking the floor. The ball, of 41-caliber size, entered the anterior fold of the left axilla, between the third and fourth ribs, and emerged at the back, between the sixth and seventh ribs, just external to the axillary border of the scapula. The patient was able to walk from the place of accident to his house, a distance of 500 yards, and when I arrived I found him bleeding profusely and complaining of an intense burning pain through the entire left side. There was very little shock noticed and he was in good spirits. The anterior wound was round, clean and surrounded by a few powder-burn marks. The posterior wound, or point of exit of the bullet, was large and ragged, and from this the hemorrhage ensued. On careful palpation I could not detect any crepitus nor signs of extravasations of blood in the pleural sac.

Treatment.—Both wounds were syringed out thoroughly with hydrogen peroxid, packed with sterile gauze, and a moderately tight bandage applied. Ten grains of citrophin were administered and a like amount ordered taken in one hour if very restless. On the following morning the dressings were removed and the same procedure gone through with as before. Pain was now nearly gone and hemorrhage reduced to a mere oozing of serum. No further internal medication was deemed necessary, as the pulse and temperature were found to be normal. A saline was administered, however, and a generous diet of easy digestibility instituted. On the fourth morning dressings were found to be absolutely dry and the anterior wound nearly closed up, the posterior being reduced to one-half its original size and filled with healthy granulations. A fresh dry dressing was now applied, plain sterile gauze being placed over the wounds and a minute quantity of iodoform was sprinkled into the meshes of the gauze, this dressing to remain on indefinitely. On the sixth day the patient walked about and suffered no inconvenience, except a little stiffness noticed in the left side. On the morning of the tenth day dressings were removed and both wounds found to be nicely healed, a firm cicatrix covering each one. That night he resumed his work as watchman, exactly ten days from the time of accident.

It might be well to state that that patient had taken a bath and donned clean undergarments just prior to the accident. He wore no coat nor vest, as the weather was extremely warm. This may account for the absence of infection and the aseptic condition of the injury throughout its course.

CASE OF TYPHOID IN AN INFANT.*

MINNIE C. T. LOVE, M.D.

DENVER, COLO.

The only notable thing in this case is the age of the patient. She was born March 8, 1900, so that she was 8 months old at the time of contracting the fever. When I began taking her temperature, regularly, I found it ranging between 102.5 and 103 in the mornings, and 103.5 and 104 in the afternoons. I was attending an older brother who had scarlet fever, and the mother called my attention to the baby, saying that she had had considerable fever of nights for over a week. On examination, I found rose spots on the trunk, and a dry, brown tongue. Although the clinical picture was so plain, I was skeptical, and asked Dr. J. N. Hall to see the patient with me. He was of the opinion that it was an undoubted typhoid, and the examination of the blood by Dr. Wilder, for the Widal test, confirmed the diagnosis. The course of the disease was typical, the temperature gradually declining, and reaching normal about the twenty-first day. The rose spots were very plentifully distributed over the trunk and limbs. The temperature, from about the tenth to the seventeenth day, rose to 104 F., every evening. The babe was entirely breast-fed. There was no tremor nor delirium noticeable, no tympanites and no diarrhea. This was the third case in the family since September 6. A girl of 10 years was very ill, a severe relapse prolonging the attack to over seven weeks. Ten days after the first, a child 3 years old developed a well-marked case, but it aborted about the fourteenth day. Between eight and nine weeks elapsed between the first and third cases. The mother had typhoid twelve years ago, but, as the oldest child had such a severe attack, and the 3-year old a more moderate one, we may exclude any condition of the mother's blood being transmitted to the baby which would give a Widal reaction. Unfortunately, the mother, who nursed all the children, destroyed the temperature records. This case is interesting, as it is rare to see typhoid under 2 years of age.

Nevada Building.

* Read before the Denver and Arapahoe Medical Society.

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LARDACEOUS, WAXY OR AMYLOID DISEASE OF THE KIDNEYS.

Our knowledge of amyloid disease of the kidneys is of comparatively recent date. Rokitansky, in 1842, described the amyloid kidney as representing a special variety of nephritis. From the appearance of the organs, on account of their resemblances to bacon, he described them as *speckartig,* which has been rendered into English as "lardaceous." The term "waxy" has also been employed. Ten years later Meckel discovered the characteristic reaction with compound solution of iodin, and shortly afterward Virchow showed that this reaction was dependent not on the presence of cholesterin, but upon that of amylon, a substance resembling vegetable cellulose, and subsequently found to be a proteid.

The morbid process is a degenerative one, and, as Litten[1] points out in a recent communication, it does not generally arise spontaneously, but it is almost always secondary to some cachectic condition, especially tuberculosis, scrofulosis, suppuration of the skin, bones or mucous membranes, syphilis, intestinal ulceration, malaria, pyelitis, carcinoma, leg-ulcers of long standing, chronic bronchitis, gout, emphysema, spondylitis, pulmonary abscesses, etc. Amyloid degeneration, however, does occasionally occur independently, without apparent cause. Children are less commonly attacked by the disease than adults. The condition is most prevalent in middle life. It develops slowly, often insidiously, and it may persist for years; occasionally it is rapid in development. The spleen and the kidneys are the organs almost invariably involved earliest and in greatest degree in the morbid process, especially the former. The liver and the intestinal mucous membrane probably follow next in frequency.

One of the most usual symptoms of amyloid disease is dropsy, both of the serous membranes and of the subcutaneous connective tissues. The former most frequently takes the form of ascites, while the latter appears especially in the lower extremities, the genitalia and the abdominal walls. The exhaustion of the patient is favored by disease of the liver, the spleen and the intestines. Involvement of the intestines is usually associated with diarrhea, which is dependent in part on ulceration, and in part upon degeneration of the villi and their vessels, as well as portal stasis. Vomiting is less common, but when present it is usually obstinate; the vomited matters have at times an odor of ammonia. When the liver and the spleen are involved they may be considerably enlarged. Uremic symptoms and apoplexy are rare. Hypertrophy of the heart also is uncommon, except in the presence of contracted kidney.

Three principal varieties of amyloid disease of the kidney may be distinguished anatomically: 1. Pure amyloid disease of the vessels, with or without fatty degeneration of the cortical epithelium—pure amyloid kidney. 2. Amyloid degeneration with chronic parenchymatous nephritis—large, white amyloid kidney. 3. Amyloid contracted kidney. The first variety is not common, and it may escape recognition during life, unless coincident enlargement of the spleen indicates its presence; and even after death the disease of the kidney may not be obvious on macroscopic examination. The second variety is much more common, and the third least so. A fourth variety, rarely observed, is sometimes described, representing a combination of acute nephritis with pre-existing amyloid disease.

Amyloid disease begins in the blood-vessels, and especially in the muscular layer, though the intima and the adventitia do not, as a rule, entirely escape. Rarely the morbid process extends to adjacent tissues. Macroscopically the condition is recognizable from the peculiar luster to which it gives rise, and which has been compared to the appearance of bacon, but particularly from its reaction to certain chemical agents. Thus, addition of compound solution of iodin causes the development of a mahogany-brown color; of sulphuric acid and zinc chlorid, the development of from a violet to a blue color; of methyl-violet, an intense and brilliant red color; and of thionin, a sky-blue color.

Amyloid disease of the kidneys is supposed to begin in the glomeruli and to extend thence to the afferent vessels, the interlobular arteries, as well as the straight arteries of the medullary portion, and finally the efferent vessels and the capillaries of the cortical structure. It is not distributed homogeneously, nor does it extend by continuity or contiguity, but its distribution is rather irregular and disseminated. The lumen of the vessels may be variously narrowed, but their walls are not unduly friable, and they do not rupture.

In the majority of cases of amyloid disease of the kidneys the urine is free, pale, clear, of low specific gravity, without noteworthy sediment or the presence of morphologic elements. At times, however, the secretion exhibits great variations in quantity and quality. It has been stated that amyloid tube-casts appear in the urine; but with regard to this there is serious doubt. So, too, it has been thought that albumin is invariably present, but evidence is not wanting that this view is not strictly correct. Whether albumin will or will not appear in the urine depends, it is thought, in the first place, on the amount of albumin excreted by the kidneys, and in the second place, on the absorptive power of the uriniferous tubules. The amyloid, large white kidney is, it is true, always attended with the presence of large

1. Berliner klin. Woch., 1900, Nos. 51 and 52.

amounts of albumin in the urine, as is likewise the kidney when it is the seat of amyloid disease and parenchymatous inflammation.

The diagnosis of amyloid disease of the kidneys will depend essentially on a knowledge of the existence, present or past, of any of the etiologic factors named, together with a recognition of similar disease in other organs, as for instance in the liver and spleen from enlargement of these organs, or in the intestines from the presence of diarrhea. So too both prophylaxis and treatment will require a consideration of the causative conditions and the application of the necessary measures for their removal or amelioration. In other respects the therapeusis will be governed by general principles and is much the same as that indicated for the several varieties of nephritis, with which too often the amyloid disease is associated.

THE BONE MARROW AND LEUCOCYTOSIS.

In various inflammatory conditions leucocytes migrate from the vessels in enormous numbers and at the same time there usually is a more or less marked general leucocytosis. Most of the leucocytes in question are of the finely granular variety, with polymorphous nuclei—"polynuclear leucocytes." The mechanism of leucocytosis, which apparently is a very sensitive one, is not thoroughly understood. It is acceded generally that a proliferation must take place in order to account for the great increase in leucocytes in the conditions just mentioned. The exact changes that lie at the bottom of the proliferation are quite hidden as yet. We do not understand the chemical and physical processes set going by the so-called chemotactic substances of various kinds, which induce general leucocytosis and local leucocytic accumulations. This problem is one of fundamental importance, and its ultimate solution depends on other methods of observation than the prevailing morphologic mode of study. There are many things that speak in favor of the bone marrow as the ultimate source of the leucocytes that make up the great bulk of cells in local and general leucocytosis. Ehrlich, Ribbert and others hold this view, which they base on the facts that the granules of the polymorphonuclear leucocytes resemble those of certain cells in the bone marrow, and that the bone marrow undergoes a definite change when there is an increased demand for leucocytes.

Robert Muir[1] has recently given a summary of his experiments bearing on this question. According to him, the bone marrow contains three kinds of cells that are of especial interest in this connection, *a*, cells with a finely granular protoplasm form the great majority, the granules corresponding to those polymorphonuclear leucocytes in being neutrophile; *b*, cells with coarse, eosinophile granules, and *c*, hyaline or non-granular cells. Only the two first should be called myelocytes. The finely granular myelocytes have a single round, oval or slightly indented nucleus. These cells are prone to multiply, and multiplying they produce smaller cells, the nucleus of which becomes polymorphous at the same time as ameboid movement is acquired, and thus they give rise to the polymorphonuclear leucocyte of the blood. The eosinophilous myelocytes are held by Muir to produce the eosinophilous leucocyte. Muir found that the smaller finely granular cells lie at the margin of the blood channels of the marrow, thus forming a reserve store of leucocytes. When staphylococcus pyogenes aureus is injected into rabbits, leucocytosis develops after a preliminary leucopenia. Marked proliferative changes appear in the bone marrow, the finely granular myelocytes increase in number and show numerous mitotic figures, and the fat cells of the marrow are crowded out. The marrow assumes the "leucoblastic" type. Myelocytes and erythroblasts may pass into the blood stream. Muir did not find that the spleen took active part in the increased supply of leucocytes, and constant changes are not present in the lymphoid tissue in experiments of this kind.

With Ehrlich and others, Muir considers chemotaxis as the essential factor in leucocytosis. The absorption of chemotactic substances into the blood induces the passage of leucocytes from the bone marrow into the blood stream. Local and general leucocytosis is produced by a similar mechanicism. The hyperplastic processes in the myelocytes may be induced by the rapid passage of leucocytes from the marrow into the blood. The newly-formed cells constantly pass into the blood, and proliferation of myelocytes may be explained according to Weigert's theory of over-regeneration after repeated loss. Muir also suggests the possibility that the substance which acts chemotactically may also directly stimulate cellular proliferation.

1. Jour. Path. and Bact., 1901, vii, 161-183.

MARRIAGE LEGISLATION IN MINNESOTA.

THE JOURNAL a few weeks ago briefly noticed the proposed marriage legislation in several states, and the probable difficulties in the enforcement of the laws when passed. The bill now before the Minnesota legislature is probably one of the best conceived and most practicable of these, and a brief notice of its chief provisions is perhaps not out of place. It provides that no man or woman who is epileptic, imbecile, feeble-minded or afflicted with chronic insanity shall intermarry when the woman is under the age of 45 years, and that no person not thus afflicted shall marry any one unless under severe penalties. No official shall issue a marriage license to any applicant unless, in addition to the conditions heretofore required, he shall be furnished with a certificate from a reputable physician, or physicians of the counties in which the applicants reside, certifying that on examination it has been found that there is, besides the patient's actual freedom from imbecility and insanity, no such defect in parents, grandparents, brothers or sisters. Every such certificate must be filed in the office of the licensing official. No clergyman or other person authorized to solemnize marriages shall

perform the marriage ceremony for any person not thus qualified by this law, under severe penalty.

It will be seen from the above that the proposed law is comparatively limited in its scope, and that the provisions for its enforcement are such as may probably be fairly efficient within the state itself. The difficulty will remain that unless other, and especially adjoining, states adopt similar regulations it will be practically a dead letter, as forbidden marriages can be contracted at any time over the boundaries. This is evidently recognized, and it is said that the Minnesota authorities will ask other states to enact similar laws. It is still a question whether, in making a family taint, including both direct heredity of insanity or imbecility back several generations and collateral heredity in brothers and sisters, a bar to marriage, the authors of this proposed legislation have not gone too far. Such a law would disqualify a large proportion, if indeed not the great majority, of the members of the reigning families of Europe, and a strict construction of the act might make it inconveniently comprehensive in its workings even in Minnesota. There are possibilities of purely acquired chronic insanities involving no family taint, and some discretion, it would seem, might in justice have been allowed the certifying physician for such cases. This, it is true, would let in a chance for evasion that the present wording prevents, and this is one of the difficulties met with in all such legislation.

It will be of interest to observe the working of this and similar enactments. Something like this is on the statute books of at least one eastern state, and the experience of its enforcement might be suggestive and instructive to the Minnesota legislature. In any case there is no question as to the desirability of checking the degenerative tendencies of modern life and the propagation of degenerates, and the experiment of legislation to that effect will be of value—possibly in its effects, certainly in its instruction.

BACTERIOLOGY AND PATHOLOGY OF DIPHTHERIA.

An important monographic study of the bacteriology and the pathology of 220 fatal cases of diphtheria, by Councilman, Mallory, and Pearce, has just appeared as a number of the *Journal of the Boston Society of Medical Sciences* (1901, v, No. 5). As pointed out in the introduction, diphtheria may now be considered as the best known of any of the infectious diseases. The study devoted to this disease has "in a marked degree increased our knowledge of pathological anatomy, of bacteriology, and of therapeutic measures in infectious diseases. In no other disease has the discovery of the cause led to measures of prevention and of cure which have been rewarded by such brilliant success."

Diphtheria was first described definitely by Bretonneau in 1826. Now its literature has grown to enormous proportions. The development of the different phases of our knowledge of the disease—the pathological anatomy, the bacteriology, and the antitoxic treatment—has in each instance led to the production of numerous articles. There are, however, a comparatively small number of articles each one of which represents an important increase of our knowledge. The authors of this monograph divide the literature of diphtheria from this point of view as follows: First recognition of the disease, Bretonneau; its recognition clinically as a specific contagious disease, Trosseau; anatomic investigation of the membrane, and its mode of formation, Virchow, Wagner, Weigert, Cohnheim and others; the remote lesions, Bizzozero, Oertel, Babes; discovery of the bacillus, its relation to the disease, and the study of experimental lesions, Klebs, Loeffler, Roux and Yersin and others; discovery of antitoxin, Behring, Roux; clinical evidence of value of antitoxin, Welch, McCollom and others. This outline well shows the development of our present knowledge of the disease. The present monograph comes as a fitting addition to this list. Naturally there is but little new added to what is known, although it is quite evident that all investigators do not agree on all points. This is especially true of many questions of a histopathologic nature.

An honest and skilful study of the anatomic and bacteriologic details of 220 cases of diphtheria is sure to become a permanent landmark in the literature of the disease. But the work has another significance that can not be too strongly emphasized. It shows what may be accomplished when the services of a large public hospital are properly organized, co-ordinated, and manned. All of the 220 cases referred to came from the so-called South Department of the Boston City Hospital—a department of 300 beds devoted to the infectious diseases of children, and the anatomical and bacteriological work was carried out in the pathological laboratory of the hospital. Here we have a striking example of the highest grade of scientific clinical and pathological work carried on year after year within the walls of the city hospital of a large American municipality. It is a noteworthy example for other hospitals of similar type; for so few of them are organized and managed in such a manner that this high grade of work is fostered. And surely the hospital that is devoted to scientific ideals takes the best care of its patients. Let physicians in the recurring scrambles for positions in the large hospitals of our cities think more of this side of the question than of a brief period of apparent authority.

THE JAPANESE AND OPIUM.

The use of opium in China is apparently regarded by the Japanese authorities as one of the causes of the decadence of that empire. To such an extent does this feeling exist that it is said that out of a number of Japanese coolies employed in the China-Japanese War, a certain portion contracted the opium habit and for this were brought before the Japanese commander. Rather than allow them to return to Japan and introduce the habit there, it is reported that he had them lined up and shot. Considering the community of political interests

in the Orient, and general friendly feeling between Japan and Great Britain, the pro-opium tendencies of the British government are perhaps worth considering as bringing in a discordant element that may give trouble in the future.

"ELEOMYENCHYSIS."

THE JOURNAL is always glad to furnish information desired by its eastern contemporaries. In a recent issue of a New York medical journal, the leading editorial, on "Therapeutical Injections of Solidifying Fats," stated that the editor did "not know where Gersuny's work in this direction was done or where the original account" was to be found. Gersuny's original article appeared in the *Zeitschrift für Heilkunde* (Bd. xxi, Heft 9), and was abstracted in the *Wiener Klinische Wochenschrift* (No. 51, Dec. 20, 1900, p. 1207). The *Semaine Médicale*, of Paris, published Gersuny's article in its issue of December, 19, 1900, without giving credit to any other journal. This article was abstracted in THE JOURNAL of January 19, 1901, p. 219, and a further reference to the injection of paraffin for surgical prothesis may be found in the issues of February 23 (p. 532) and March 16 (p. 775).

THYROID TREATMENT AND OPTIC NEURITIS.

The usual symptoms of thyroidism, emaciation, weakness, shortness of breath, nervousness, etc., are well known, but there are others occasionally observed that are less generally appreciated. If we are to regard exophthalmic goiter as the result of hyperthyroidization, we can see possibilities in the way of unpleasant symptoms that have not all been actually observed from the therapeutic use of the extract. However that may be, it is probable that observations on the increasing therapeutic use of the drug will from time to time bring out many important additions to our knowledge of its effects. One such has been editorially noticed in the *Medical Press and Circular* for March 6. The reference to the record is not given, but it states that Dr. Coppez, of Brussels, reports the cases of five patients, four of them women, in whom prolonged thyroid treatment for obesity produced well-marked optic neuritis, occurring several months after the beginning of the treatment, but then progressing very rapidly, vision being reduced to one-tenth in the course of a few weeks. No other symptom of thyroid intoxication appeared in these cases, but in some of them suspension of the administration sufficed to relieve the condition, and its connection with the treatment therefore seemed obvious. In other cases a prolonged course of tonics and the use of electricity were required. As the writer remarked, henceforth the inquiry as to the use of thyroid treatment will be in order in cases of optic neuritis of obscure etiology.

REPORT OF THE YELLOW FEVER COMMISSSION OF THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

Last summer the Liverpool School of Tropical Medicine sent Dr. Herbert E. Durham and Dr. Walter Myers to Para, Brazil, for the purpose of studying yellow fever. About two months ago both these investigators were attacked by yellow fever. Unfortunately Dr. Myers died, as noticed in THE JOURNAL. Dr. Durham, who recovered, has issued preliminary reports[1] of the results so far obtained in their work. These were printed in THE JOURNAL of March 9, p. 679, and show that they have found a fine, small bacillus in the organs of all fatal cases of yellow fever examined. This bacillus is found in the contents of the lower intestine, also in great preponderance over other micro-organisms. While it is likely that this bacillus has been seen by Sternberg and other observers, the reason that it has been accorded little or no notice heretofore is probably due to the difficulty with which it is stained. Prolonged staining in diluted carbol-fuchsin (Ziehl) is necessary to bring out the organism. So far pure growths have been secured only by placing whole mesenteric glands in broth under atmosphere of hydrogen. Search is now in progress for suitable culture-media. Protozoa have not been found. The reports state that the evidence in favor of the fine small bacillus is regarded as stronger than for any other pretended yellow fever germ, but there is much work yet to be done in order to definitely establish this claim. The death of Dr. Myers must be regarded as a loss to medical science. His work gave promise of fruitful activity as an investigator. In commenting on the report of Drs. Durham and Myers, Professor Welch, of Baltimore, writes: "Both Lazear of the American and Myers of the English yellow fever commission have laid down their lives in the search for means of prevention, based upon better knowledge of causation, of one of the most baffling and terrible scourges of mankind. How much more glorious is the cause to which these bright young lives were sacrificed than any for which nations are in arms to-day!"

"IMMUN-PROTEIDINS."

An abstract appears elsewhere in this issue (p. 929) of THE JOURNAL giving the details of certain interesting experimental studies by Emmerich and Löw, on the production of immunizing and curative substances. Emmerich and Löw belong to that large school of investigators which believes that acquired immunity and the healing of some infectious diseases are produced by soluble chemical substances of the nature of bacteriolytic enzymes. The source of these substances has been much discussed, some finding it in the serum of the blood and other fluids, others in leukocytic and other cells. Emmerich and Löw, however, claim that these bacteriolytic substances are produced by the bacteria themselves in the same way as it is thought that in cultures injurious substances appear and cause the organisms to die out. These substances are regarded as enzymes formed from zymogens in the bacteria. These enzymes are proteolytic and destroy the bacteria by which they are formed; and in some instances they also destroy and dissolve many other bacteria as well. Thus the ferment derived from Bacillus pyocyaneus—pyocyanase—destroys large numbers of anthrax, typhoid, diphtheria and plague bacilli, as well as diphtheria toxin. Furthermore, pyocyanase cures animals infected with anthrax bacilli. When bacteriolytic ferments develop in the living body, they may unite with proteids and form stable and durable compounds, possessing the bacteriolytic and

1. JOURNAL A. M. A., March 9, pp. 673 and 679.

antitoxic properties of the ferment, and this in even greater degree. This, in brief, is Emmerich and Löw's theory of the chemistry of immunity and of the healing of the infectious disease, more especially the septicemic, such as anthrax and swine erysipelas. The compound of ferment and proteid is designated as "immun-proteidin." It is of complex molecular structure, not readily subjected to osmosis, consequently more or less persistent. When present in an organism it confers a certain degree of immunity, corresponding to the amount present. In the article abstracted the authors dwell especially upon the artificial production of immun-proteidins outside of the animal body. But the method evolved is as yet far from perfect and the beginner who undertakes to test the method is specifically cautioned against condemning the method because of failure at the first attempts.

NEWSPAPER IGNORANCE AND SCIENTIFIC MEDICINE.

The death of Ex-president Harrison is taken as a text for abusing the medical profession by one of the quack-favoring dailies. It calls the event a "conspicuous instance of the helplessness of the medical profession when confronted by certain cases of diseases." Pneumonia, it says, while it is "always dangerous, is seldom deadly," and it suggests what a storm would have been raised if the ex-preident had trusted himself to the osteopaths or "Christian Scientists." The editorial is a type of many now appearing, inspired by ignorance and malice, and the question often arises whether such utterances are unworthy of notice or should be taken up and resented. Under ordinary circumstances it would hardly be worth the trouble to notice them, for they usually defeat their own purpose by their rank exaggeration and evident inspiration by prejudice and ignorance. It does not require much intelligence to recognize the fact that medicine has earned the confidence of the public by its success, and to perceive the probability that this same cavilling editor would throw himself into the hands of a physician did he think himself the victim of a dangerous or troublesome disease. An average intellect can perceive that the death of so prominent an individual under the ministration of voodooists or ignorant masseurs or bone-setters might reasonably arouse comment and sins of omission be charged. The editor and the public do not apparently know, however, that for six months of the year pneumonia is one of the most fatal of all diseases in our northern climate, and with its la grippe complications incomparably the most fatal. Moreover, it is the disorder which, more than others in recent years, has been one of the least amenable to control, and its mortality is increasing while that of other diseases, like tuberculosis, is decreasing. The editorial referred to is simply an exhibition of ignorance in this respect. There is a sort of cheap self-consciousness of virtue and liberality indulged in by editors and others that shows itself in taking up and supporting self-assertive frauds and denouncing the bigotry of those who, with better knowledge, are compelled to conscientiously oppose them. It does not matter to such that a little investigation of facts and a limited utilization of their intellects would demonstrate to them the error of their ways. They are too well satisfied with things as they are. In the meantime medicine and the medical profession will continue to follow the scientific paths and do all they can to lead mankind into the ways of bodily salvation.

MALARIA FROM AN ECONOMIC STANDPOINT.

One is surprised on reading Celli's books[1] on malaria, recently translated into English, to see how this authority has quite subordinated the scientific and medical view to the social and economic, or rather, how he has utilized scientific and medical truths to solve those of an economic and social nature. Some facts presented are almost startling. For instance, he tells us that in Italy the mean annual mortality from malaria is about 15,000, and the number of those who suffer from the disease he estimates at 2,000,000 a year, with a rather long average duration of illness. The loss in productiveness of labor and productions and the expense entailed in dealing with this disease consequently amount to several million francs. Because of malaria more than 5,000,000 acres of land are imperfectly cultivated, and in these localities the average life of the workman is shorter, the infant mortality higher, and the number of emigrants greater than would otherwise be the case in healthy places. The economic loss from malaria is, therefore, enormous. Some of the railways have to reckon on a certain sum to be expended annually on account of malaria. One company with about 850 miles of railway, and employing 6416 workmen, spends $200,000 a year for this reason. The army has averaged about 15,000 cases a year for twenty years. One can thus see how the question is of prime importance to the state, and how legislation may be necessary to secure those conditions that will tend to check the development and the spread of the scourge. Attention must be given to destruction of the breeding-places of the mosquito. Forests, standing or sluggish water, rice and cane fields, peat bogs, fish-ponds and certain industries, such as the maceration of hemp, must be under governmental supervision. In fact, laws regulating the cultivation of rice, where the wet fields afford excellent breeding-places for the mosquito, have been for years on the statute books, placed there even before the relation of the mosquito to the disease was known.

The insect in its larval state must be subject to government attack. And laws may be necessary to regulate the proper building of houses, the screening of the doors and windows, the furnishing of proper food and clothing to the laborer by his employer, the compulsory isolation of those ill with malaria, etc. Realizing that the vulnerability of an individual to disease may depend much upon proper food, clothing and hygienic surroundings, when we read of the condition of the Italian laborers as it is depicted by Celli, how they are often huddled together in wretched huts or even caves, underfed, insufficiently clothed, overworked yet poorly paid by the capitalist land owner with his hireling overseers, we can well understand the earnest words that the author pens in an almost socialistic strain, and can see how the mosquito is perhaps destined to play a not insignificant part in improving the condition of the poor in Italy and in bringing about a social revolution.

1. Celli, Angelo: Malaria According to the New Researches. Translated from the second Italian edition by John Joseph Eyre. Longmans, Green & Co. 1900.

What is said concerning the sociologic and economic view of the mosquito in Italy will apply with greater or less force to other malaria-scourged lands, even to including our own country, especially since it is now responsible for the welfare of the newly-acquired tropical possessions.

THE INFLUENCE OF SERUMTHERAPY ON DIPHTHERIC STENOSIS OF THE LARYNX.

It has been objected by those who are not convinced of the efficacy of the antitoxin treatment of diphtheria, that since this method has been introduced into hospital practice a relatively larger number of mild cases are admitted into the hospitals. Even were this objection supported by the facts, it would admittedly not be applicable to private practice. It has further been suggested that both in hospitals and in private practice a change in the character of the disease has taken place, in the direction of an attenuation in its virulence and a lessening of its fatality; but even did such a variation coincide with the introduction of serumtherapy, it would be applicable to mild and severe cases collectively, and not to severe cases alone. To eliminate these objections as far as possible, Galatti[1] has made a study of the cases under his observation in which symptoms of laryngeal stenosis were present, and his services were invoked in consultation with other physicians for the purpose of performing intubation. Sixty-one carefully observed cases seen in the course of several years—29 before and 32 since the introduction of serumtherapy—were analyzed. Intubation was advised against in 20 of these, such treatment being meanwhile employed as was in vogue at the time. Of the 29 cases of laryngeal stenosis prior to the employment of serumtherapy, recovery occurred in 6—21 per cent.—without operative intervention, while of the 32 cases during the antitoxin period, recovery ensued in 14 or 44 per cent. without operation. A comparison of the cases subjected to intubation in the pre-antitoxin period with the cases of laryngeal obstruction treated with antitoxin, and thus escaping intubation, as well as with cases requiring intubation, showed that there was little difference between the several groups of cases with regard to severity. The lessened necessity for intubation was not found to be dependent on differences in age, as the improvement was noted equally in earlier and in later childhood. In the pre-antitoxin period, intubation had to be supplemented by tracheotomy in 1 case, and in the antitoxin period in 5 cases. This circumstance must be considered as indicative of the gravity of the cases of the latter group. Of the 23 intubated cases of the first period, death occurred in 11—47.8 per cent; while of the 18 intubated cases treated with antitoxin, death occurred in 1, or 5.5 per cent., and this probably because of the small dose employed. The period for which intubation had to be maintained was shorter in the serum-treated than in other cases, being on an average fifty-seven hours for the former and seventy-eight and one-half for the latter, the contrast being particularly marked in the cases in which recovery ensued, namely, as 58 to 108. The length of the period in individual cases varied between thirty and seventy-nine hours in the cases treated with antitoxin; and between thirty-one and forty-three and three-fifths hours in the cases treated in the pre-antitoxin period.

1. Wiener med. Woch., 1901, Nos. 2 and 3.

Medical News.

ARKANSAS.

A unique bill has been introduced in the legislature, to prevent physicians and surgeons from practicing if they use intoxicating liquors as beverages.

The State Board of Health has been organized, with Dr. George M. D. Cantrell, Little Rock, president, and Dr. Robert B. Christian, Little Rock, secretary.

CONNECTICUT.

A sanatorium for consumptives is to be built on Cedar Hill, three miles from Hartford, on land owned by the Hartford Hospital.

The citizens of Westville, New Haven, held a mass meeting and have protested against the establishment of a hospital for contagious diseases in that village.

Dr. Joseph H. Townsend, New Haven, has been appointed a member of the State Board of Health, vice Dr. G. Herrick Wilson, Meriden, whose term has expired.

Physicians have appeared before the judiciary committee of the legislature in behalf of the medical practice act with especial reference to reciprocity in certificates between the various states.

DELAWARE.

Dr. Joseph W. Bastian, Wilmington, has been appointed port physician.

Delaware Hospital, Wilmington, has received $5000, a legacy under the will of Mrs. Sarah Esther Cummins, of Smyrna, to endow a bed in memory of her parents.

The Abbott bill, which permits physicians who have practiced ten years in another state and have resided one year in Delaware, to practice in Delaware without undergoing an examination, is meeting with vigorous opposition from the reputable physicians of the state.

Smallpox prevails in Seaford, where it was discovered seven weeks ago. The disease is said to be confined mostly to negroes, and up to March 13 about 50 cases had been reported. On that date members of the State Board of Health visited the town and promulgated regulations providing for thorough vaccination and quarantine, to include obstructing of the town; appointment of inspectors and thorough antiseptic bathing of patients, and complete disinfection, private interment and abolition of all public assemblages. Georgetown has decided to place armed pickets along the roads leading from Seaford, in order to prevent the disease from spreading to that town. Every resident has been ordered to become vaccinated under a penalty of $10 fine.

ILLINOIS.

A Jerseyville practitioner was fined $100 and costs, March 12, for practicing medicine without a license.

Rockford City Hospital's consulting staff, on March 15, elected Dr. Daniel Lichty, president, and Dr. Sanford R. Catlin, secretary.

A fine was imposed on a Clinton physician, on March 14, for failing to report a case of contagious disease to the local board of health.

Quarantine of Salisbury, on account of smallpox, is said to be contemplated by the State Board of Health. As usual, the local physicians deny the existence of the disease.

Dr. George A. Zeller, Peoria, who went to the Philippines two years ago as acting assistant surgeon has been promoted and now holds the rank of captain and assistant surgeon of volunteers.

Dr. James A. Egan, secretary of the State Board of Health, has been nominated and appointed a member of the State Board of Health, to succeed Dr. Peter H. Wessel, Moline. In his communication to the senate, the governor says: "This appointment is made because I deem it best that the secretary of the State Board of Health should be a member of the board."

Chicago.

Dr. Niles T. Quales, who was injured by an accident, March 15, and taken to the Deaconness Hospital, is now convalescent.

County Hospital Staff.—The following-named physicians have been appointed on the assistant staff of Cook County Hospital: F. Gregory Connell, Maurice L. Goodkind, Arthur M. Corwin, Carl J. Anderson, Bertram W. Sippy, Henry F. Lewis, William A. Quinn, Amuel B. Spach, William A. MacFarlane.

John E. Rhodes, August F. Lemke, Arthur D. Houghton, George E. Thompson, David J. Doherty, Henry J. Brugge, and Patrick J. H. Farrell, of Chicago, and Dr. William R. Livingston, Maywood.

Decreased Mortality of Chicago.—There have been 581 fewer deaths this year, up to the close of last week, than during the corresponding period of 1900. This is a decrease of nearly 10 per cent. In the first twenty-three days of March there were 1451 deaths from all causes, as against 1833 in the similar period last year—a reduction of a little more than one-fifth. Last week the total reported deaths numbered 465; for the corresponding week one year ago, 640, or 30 per cent. more. This low mortality record, which has now been maintained since the end of the fourth week of January—up to which date the deaths this year slightly exceeded those of last, the respective totals then being 2095 and 2056, is without parallel in the history of the city. In the presence of influenza and smallpox it is nothing short of marvelous. The deaths from diseases of the respiratory system numbered 173, diseases of the heart caused 33, and nervous diseases, 34 deaths; violence is noted as the cause of death in 33 instances.

Unvaccinated School Children.—Judge Dunne's ruling that unvaccinated children can not be excluded from schools until an emergency exists, is susceptible of various and dangerous interpretations. Dr. Spalding, chief medical inspector of the health department, says that there is always an emergency. The office of the health department is to prevent, not to cure disease. As a result of the extraordinary precautions against smallpox, of the 138 cases of the malady this winter only 4 were of school children, and not one of these children had been vaccinated, but each was attending school on false certificate of vaccination. Smallpox takes hold rapidly. If Chicago had not been thoroughly vaccinated when smallpox broke out last year there would have been a great epidemic. Children being more susceptible to the disease, as they are to all contagious diseases, would have been the first to suffer. The history of smallpox in the city shows that in the epidemic of fourteen years ago 40 per cent. of the children stricken died, while the general mortality was only 25 per cent. In 1893 there were 4000 to 5000 cases, and the children furnished a heavy proportion of them.

IOWA.

Dr. Charles R. Russell, Ottumwa, was elected state physician of the Knights of the Maccabees, March 15, by a large majority.

Dr. William S. Grimes, Wapello, has been appointed a member of the pension examining board, vice Dr. G. W. Younken, resigned.

Dr. Maurice A. Hanson, Osage, is about to take a three-years' post-graduate course in Vienna, devoting his attention chiefly to surgery.

Dr. Edward E. Dorr, Des Moines, has started a movement for the transfer of the medical school of the state university from Iowa City to Des Moines.

MARYLAND.

Baltimore.

Dr. G. Lane Taneyhill has been elected first vice-president of the Baltimore City Missionary and Church Extension Society of the M. E. Church.

Dr. Schwatka, the new surgeon-general of Maryland, is outlining a plan whereby the duty of the medical officers and hospital corps of the national guard shall not be purely ornamental. His plan provides for a thorough course in field-hospital work.

Notes from Osler's Clinic.—Of 51 cases of lobar pneumonia in the hospital this session, there have been 14 deaths. There were 24 cases of typhoid fever; in 9 of these there were relapses; in 12, the typhoid bacilli were isolated from the blood, in 4 of these before the Widal reaction appeared. Two cases of typhoid fever were admitted to the surgical side and operated on for appendicitis.

Pneumonia Antitoxin.—The recovery of Quarantine Physician Sydney O. Heiskell, from pneumonia, following rapidly on two injections of pneumonia antitoxin, is attracting much attention. He testified to the great relief it gave, which morphin failed to give. From a statement made at the health department, it is learned that members of the department first used the serum in 1899, Dr. C. B. Canby publishing successful results in three or four cases. Other cases were known to have been successful and there was one failure. In all there was almost immediate relief from pain and oppressed breathing. Such relief is confidently looked for within four hours. The injection should be given as soon as the diagnosis has been made, and repeated every four to six hours until results are obtained. It is only in the pneumococcus that the antitoxin is of service. In Heiskell's case, treatment was instituted in twenty-four hours. At 4 p. m. the temperature was 102 degrees, respiration 35 and pulse 100; sputum rusty. At 5.45 p. m. 20 c.c. of serum was injected. At 10 p. m. the temperature was 100.6 degrees; respiration, 30, and pulse 98. A second injection was given and at 4 a. m. the temperature was 99.6 degrees; respirations, 25, and pulse 90.

MASSACHUSETTS.

Dr. James C. D. Clark has been appointed city physician of Medford.

Dr. Mary P. Dole, Greenfield, has been elected a member of the board of managers of the Franklin County Hospital.

Dickinson Hospital, Northampton, is to be given a new operating-room fully equipped, as a memorial of a citizen of Northampton.

Anne Jaques Hospital, Newburyport, in one week has received a $10,000 bequest from Mrs. Sophia C. Hale, and an offer of a $5000 site and a $50,000 new building from William C. Todd.

Amendment to Registration Law.—Dr. Immanuel Pfeiffer, North Adams, has urged before a legislature committee the adoption of amendments to the law regulating the registration of physicians and surgeons. As finally presented to the committee the petition asked that any person having a diploma from a recognized medical college shall be registered without examination; that the fee for registration be reduced from $20 to $10; that such fees shall be paid into the state treasury; that all expenses and salaries of members of the State Board of Registration in Medicine shall be paid from the treasury, that such salary and expenses shall not exceed $1200 annually for any single member of the Board, and that all examination papers shall be open to the inspection of physicians for three years after such examination.

MINNESOTA.

By the will of Mrs. George A. Pillsbury, Minneapolis, the Northwestern Hospital in that city received $10,000.

Temperance is the text of a bill introduced by Representative Sageng, Otter Tail, which makes it a misdemeanor for physicians or surgeons to administer medicines or perform operations when under the influence of liquor.

The St. Paul physician charged with violating the health ordinance in failing to report a case of smallpox was discharged March 17, the judge holding that there was no evidence to show that the defendant recognized the case in question as being smallpox.

Members of Health Boards.—Amendments to the laws have been presented by Senator Chilton, which provide that county boards of health shall consist of the county attorney and a physician, the latter to be the health officer and to be selected by the county commissioners; that township boards of health shall be composed of the supervisors, who may select a physician or local health officer; that village boards of health shall consist of three members, one of whom shall be a physician, and that the secretary of the State Board of Health must be a physician.

MISSOURI.

The Hall medical bill has been signed by the governor, and becomes operative ninety days after the adjournment of the legislature.

Mumps is epidemic in St. Louis. Physicians estimate that there are 20,000 cases in the city at present, and that in 85 per cent. of the cases the disease was preceded by influenza.

Columbian Medical College, Kansas City, has held its annual commencement exercises, March 19, and graduated a class of 14. The annual address was delivered by Rev. George H. Combs, D.D.

Ensworth Hospital Medical College, St. Joseph, held its graduating exercises March 18, and granted diplomas to a class of nine. Prof. B. Macafee, president of Park College, Parkville, delivered the address to the class.

NEW HAMPSHIRE.

Margaret Pillsbury Hospital, Concord, is a beneficiary to the extent of $25,000, by the will of Margaret A. Pillsbury.

Manchester's Board of Health, at its annual meeting, re-elected Dr. William M. Parsons as its medical adviser and health officer.

The State Board of Health has taken forcible possession of one of the boarding houses of the Cheshire mills, at Harrisville, for use as an isolation smallpox hospital. For three weeks the contagion has been raging and on the increase.

NEW YORK.

Dr. Roland H. Stubbs has been elected health officer of Waterford.

Dr. William E. Johnson, Waverly, has been appointed secretary to the state health commissioner.

Minerva offers inducements to a young medical man looking for a location. At a recent town meeting it was voted to pay a physician $500 a year if he will only settle there. The town has a population of 1052.

Legislation on Practice.—A bill has been introduced providing that no person shall practice hypnotism, mesmerism, suggestive therapeutics and allied phenomena after May 1, unless previously registered and legally authorized, or unless authorized by the Regents. Candidates are required to show evidence of good general education and of having studied medicine in a medical school for at least two full school years. The penalty for violation of the provisions of this bill is a fine of not more than $250 or imprisonment for six months for the first offense.

Buffalo.

Dr. Fred A. Pitkin has been appointed house physician to the German Hospital.

Dr. Nelson A. Wilson has been appointed sanitary officer of the Pan-American Exposition.

German Hospital Staff.—The election of officers on the medical staff of the hospital resulted as follows: Dr. Charles H. W. Auel, president; Dr. Marcello Hartwig, vice-president, and Dr. Charles Weil, secretary. The position of clinical pathologist was filled by the election of Drs. William G. Bissell and Albert E. Woehnert.

Erie County Hospital Staff.—At a recent meeting of the Erie County hospital staff, Dr. Harvey R. Gaylord, Vertner Kenerson and Marshall Clinton were elected to fill positions on the attending surgical staff made vacant by the resignations of Drs. Eugene A. Smith, John Parmenter and Herbert Mickle.

New York City.

Dr. Francis Delafield, who has so long occupied the chair of practice of medicine in the College of Physicians and Surgeons, has resigned and will be succeeded by his clinical assistant, Dr. Walter B. James.

St. Luke's Hospital is to sell the remaining five lots of its old site on Fifth Avenue, for $575,000. The market value of its remaining real estate is $2,326,000, and the cash value of its personal assets $1,180,260.

New Maternity.—Application has been made for articles of incorporation of a new maternity hospital, to be known as the Manhattan Maternity Hospital and Dispensary. A wealthy gentleman, whose name is at present withheld, has donated a sufficient sum to build and equip the hospital, and partly maintain it for a term of years. It will have a small indoor service for especially severe and complicated obstetric cases, but its special sphere of usefulness is stated to be the carrying on of a large tenement-house midwifery service. In this respect its work seems to overlap that of the other maternity hospital which has become so well known because of the million-dollar donation of J. Pierpont Morgan.

OHIO.

Dr. Najib Taky-ud-Deen, Assistant-Surgeon, U. S. A., is ordered for duty to Columbus Barracks.

Dr. Raymond E. Whelan, Youngstown, has been promoted from acting asstistant-surgeon to captain and assistant-surgeon of volunteers.

Dr. August Ravogli, Cincinnati, has been appointed a member of the State Board of Registration, for a term of seven years, to succeed himself.

Dr. Jerome B. Thomas, Dayton, who has been for some time an acting assistant-surgeon in the army, has been made captain and assistant-surgeon of volunteers.

PENNSYLVANIA.

Dr. J. Linton Harkness, Philadelphia, has been appointed resident physician at the Pottstown Hospital.

Lancaster County Hospital for the Insane, which has been erected at a cost of $72,000, was opened March 13.

Dr. Fred R. Underwood, London, has received an appointment as acting-assistant surgeon in the army and has been ordered to report for duty at Fort Leavenworth, Kan.

The Pottstown Board of Health has adopted a resolution declaring tuberculosis contagious and placing it among the list of infectious diseases, and the public has been warned to take the same precautions as in case of typhoid fever and diphtheria.

Refuse Vaccination.—The teachers' committee of the school board of Harrisburg has been notified that 750 pupils in the public schools of that city refuse to comply with the state law requiring them to become vaccinated. They have been notified that if they fail to be vaccinated before March 20 they will be excluded from the schools.

Hospitals in Cities.—Judge J. D. Shafer, of Pittsburg, on March 16 handed down a decision regarding the erection of hospitals in built-up portions of cities to the effect that this law did not prevent hospitals from having additions made, but that it prohibited the erection of new hospitals. This decision may have an important bearing on the generous gift to Pittsburg, by the late Christopher Magee, providing for the construction of a large hospital in the residence portion of that city.

Philadelphia.

The annual prize of a complete "Surgical Anatomy" offered by Dr. John B. Deaver to the graduating class of the University of Pennsylvania, has been awarded to Albert Griffith Miller for his essay on "Appendicitis."

Dr. Robert P. Robins, who served as acting assistant surgeon and was in charge of the Second Reserve Hospital at Malate, near Manila and was made captain and assistant surgeon of volunteers a year later, has been promoted to major and surgeon of volunteers.

RHODE ISLAND.

A general hospital for Pawtucket and Central Falls is being strongly urged by the Pawtucket Medical Society.

The Boston Medical Library has received from Dr. Horatio R. Storer, Newport, a valuable collection of 2300 medical medals. It is to be known as the Storer Collection of Medical Medals, in memory of Dr. D. Humphrey Storer, father of the donor.

Medical Practice Act.—An act has been introduced in the house of representatives which provides that all applicants for authority to practice medicine will be compelled to take an examination instead of being admitted by diploma as at present. It gives the state board of health authority to grant certificates and provides for an appeal from the state board to the supreme court.

WASHINGTON.

Dr. Donald G. Russell, Spokane, has been reinstated as surgeon for the Great Northern Railway Company, and in addition has been appointed chief surgeon to the Spokane Falls and Northern and the Kootenai Valley and Bedlington and Nelson Railways.

Dr. James R. Yocum, Tacoma, president of the State Board of Health, has given the governor and legislature timely warning regarding precautions to be taken against the invasion of bubonic plague. He urges that the state board of health be empowered to establish such a system of quarantine inspection as will prevent the introduction of the plague at any port in the state and insure its suppression should it creep in.

WISCONSIN.

Dr. William C. F. Witte, Milwaukee, has been critically ill from infection of a finger during an operation, but is now improving.

Dr. Charles E. Ide, formerly interne at Passavant Memorial Hospital, Chicago, has been appointed to a similar position in the Johnston Emergency Hospital, Milwaukee.

An unlicensed practitioner of Stanley, who was arrested a month ago for practicing medicine without a license, was fined $50, March 22, but the fine was remitted on his promise not to repeat the offense.

Mrs. Mary Deleglise, Antigo, has deeded a block of valuable land to be used as a hospital site, on the condition that a $10,000 hospital be erected thereon and that the institution shall care for her two invalid sons during their lives.

Dr. Gilbert E. Seaman, Milwaukee, has been commissioned assistant surgeon in the Wisconsin National Guard and assigned to the First Regiment. He had previously seen service in the Spanish-American war and in the Philippine Islands.

GENERAL.

Yellow Fever Precautions.—It having been brought to the attention of the Marine-Hospital Service that smallpox exists in an epidemic form at Progreso, Yucatan, the acting assistant surgeon of that service, formerly located at Vera Cruz, Mexico, has been transferred to Progreso, while another acting assistant surgeon has been transferred from Habana to Vera Cruz. The duties of both these officers will be to inspect all vessels leaving those ports for ports in the United States or its dependencies, and also to inspect the passengers and their baggage. All baggage which requires such treatment will be disinfected before shipment. This action was intended specially for the protection of Cuba.

Appointments.—Following the usual custom, the U. S. Marine-Hospital Service has detailed the following named acting assistant surgeons for duty at the fruit ports of Central and South America, during the coming close quarantine season: Paul Osterhout, Bocas del Toro, Colombia; D. W. Goodman, Port Limon, Costa Rica; W. K. Fort, Livingston, Guatemala; S. H. Backus, Puerto Cortez, Honduras; W. H. Carson, Bluefields, Nicaragua; R. H. Peters, Ceiba, Honduras; J. Grey Thomas, Belize, British Honduras. It will be the duty of these officers to supervise the loading of fruit at each of the ports mentioned, to inspect the vessels, their passengers and crews, and to disinfect such baggage as requires this treatment, with a view to preventing the introduction of yellow fever into the United States.

Emergency Hospital at the Pan-American Exposition.—In the hospital building, which has been located near the west end of the Mall, for the Pan-American Exposition, floor area is

a prominent feature, and the free Spanish renaissance has been followed in the architectural work, with a tendency toward the old mission interpretation. The hospital has a frontage of 90 feet on the Mall, and the main wing a depth of 38 feet, being but one story high, except in the center, where it assumes the form of a square tower with a rounded top. This tower is two stories high, and bears two flagstaffs, one supporting the exposition flag, and the other the Red Cross banner. A rear wing, one story high, runs back from the center portion a distance of 56, with a width of 32 feet. A low wandering adobe mission house covered with heavy red tiling, may be readily imagined from the external architecture, but within everything is modern, and approved medical and surgical appliances have been selected with regard to their adaptability to emergency work and the exigencies that are likely to arise. The main office contains telephone and electrical annunciator, and messenger call service, etc. The first floor front contains, in the extreme western wing, two male wards with seven cots each, a bath-room, physicians' office, a morgue and a linen chest. The eastern wing contains a woman's ward, large enough to hold a dozen cots, with direct communication to the woman's bath-room. This wing also contains an office for the superintendent of nurses, a private physician's office, a linen closet and other conveniences. The upper story is intended for the use of the resident physician and the necessary attendants. It is fitted up with four pleasant, comfortable bed-rooms and a bath-room. The rear wing, extending back from the main entrance, contains the operating-room, sterilizing department and instrument cases. Immediately across the hall is the emergency bath-room and patients' waiting-room. Still farther down the corridor is located the kitchen, pantry and dining-room, which is intended for the use of patients only, as the members of the staff have their culinary department in the service building near by. In the extreme southern end of this wing is the storage room for the electrical ambulances, and this room also contains a station for recharging the batteries; electricity for this purpose being brought from an electric circuit provided for the electric launches on the Grand Canal. In addition to the two electrical ambulances, a steam or gasolin motor ambulance will be ready in case of a possible failure of the electrical current. The building is provided with natural gas for heating purposes and for cooking when necessary for the patients. Water, gas and electricity are carried to every part of the hospital in the most approved manner. Dr. Roswell Park is the director, Dr. Vertner Kenerson, deputy director, and Dr. Alexander Allen the resident physician. To March 1, 504 cases have been treated on the grounds, only one of which proved fatal. These include all forms of sickness and accidents to workmen employed upon the construction work. In this connection it is well to note that the number of cases treated at the Omaha Exposition was about three thousand, while the history of the hospital at the World's Fair in Chicago gives a total of 11,602 medical and surgical cases treated, with 69 deaths.

CANADA.

Death of Nurse.—A nurse of the Montreal Civic Hospital, while attending to her duties in that institution, recently contracted measles and died, and the unsanitary conditions of the hospital are held accountable for her death.

Memorial Building.—The honorary secretary of the Hamilton City Hospital Board has decided to erect, at his own expense, a new $5000 out-door building for that institution, in memory of his wife, who took an active interest in the affairs of this hospital.

Private Wards.—At the next meeting of the Medico-Chirurgical Society of Montreal the question of private wards at the General Hospital will come up for discussion. There is much feeling among members of the profession of that city at the present on this question.

Antivaccination Bill.—There is a bill now before the Ontario legislature providing that persons having religious objections to vaccination shall have the option of declining to be vaccinated. The Civic Committee of the legislature will make a vigorous fight against the bill.

Notification of Tuberculosis.—The board of health of the Province of Quebec now requires that every householder in whose home a death from pulmonary tuberculosis occurs, shall notify the secretary of the board within forty-eight hours thereafter. The municipality must then disinfect any compartments of the house that may have become contaminated by the patient.

Vital Statistics.—Quebec's death-rate from tuberculosis is 1.99 per 1000; Ottawa, 3.12; Montreal, 2.87; Toronto, 2.41; Kingston, 2.17; London (Ont.), 2.67; Paris, 4.9; New York, 3.60. In 1898, while the birth-rate in Ontario was 20.4, that in the province of Quebec was 35.7; in 1899, it was 33.46. The birth-rate of the province of Quebec is higher than that of all countries except Germany.

Montreal's Scarlet Fever.—The scarlet fever epidemic in Montreal continues unabated. For six months, from September last, the cases reported to the health office have numbered 1046, while the deaths for that period from this disease number 222. In 1894 the city experienced a similar outbreak and the cases numbered 1915. Only 159 have been treated at the Civic Hospital, and of these 46 have died.

Addition to McGill.—Another large addition is to be made to the medical building of McGill University, Montreal, and will greatly increase the accommodation of the present buildings. It will be four stories in height, with a suitable basement and a lecture room, museums and chemical laboratories. The total cost of the proposed addition will be defrayed by Lady Strathcona and the Hon. Mrs. Howard.

Toronto Societies.—The organization of an academy of medicine is again being agitated in Toronto. The city has three societies, the Clinical, the Toronto Medical and the Pathological Society, and in a medical population of nearly 500, neither can muster an average attendance of two dozen. It is thought that an academy of medicine would prove instrumental in producing more original medical thought in the city.

Victorian Nurses.—The annual meeting of the Montreal branch of the Victorian Order of Nurses took place in that city last week. The nursing staff varied from seven to three during the year; 529 patients were cared for and 6751 visits,

in addition to 150 night calls were made. The fees derived from patients amounted to $782.50. The staff at present consists of six nurses. Professor Adami was re-elected secretary.

Amalgamation of Schools.—In regard to the negotiations pending toward the amalgamation of Trinity Medical College with the Toronto School of Medicine, the corporation of Trinity does not consider the scheme as proposed feasible. The College is, however, favorable to amalgamation on broad lines. The rejected proposal was that the teaching staffs of the two schools be consolidated without any reduction at the present, and that a re-arrangement be made within two years.

Missionary Hospitals.—A cottage hospital at Sifton has been completed and equipped, by private aid, Lady Minto being particularly generous. A Montreal woman has offered to build a second one, and Dr. Reid, the medical missionary among the Doukhobors and Gallicians, urges that it be established at Ethelbert, twenty miles from Sifton. He says another medical missionary will be necessary to carry on the work connected with the two hospitals among these people of the Northwest Territories.

Treatment of Inebriates.—The prospects that the proposed bill for the treatment of inebriates will go through the Ontario House of Assembly this session appears very slim. The bill has the approval of the premier and other members of the government, and has been endorsed by the inspectors of prisons and the warden of the central prison, who is a medical man. Still the government hangs back and does not introduce the measure, and the session is now near its close. The promoters of the bill are very outspoken at the action of the government.

LONDON.

The Commission on Arsenical Poisoning.

The royal commission appointed to investigate the recent epidemic of arsenical poisoning has held several sittings. Dr. Winen, medical officer of health of Manchester, said that it was safe to say that not less than 2000 cases had been seen by medical men in Manchester. Professor Hope, medical officer of health for Liverpool, said that he was one of the members of a small subcommittee appointed by the Liverpool medical institution to investigate the extent of the poisoning epidemic. About 100 cases were tabulated by the subcommittee, which were all treated in public institutions. Arsenic was found in the viscera in some cases and there was no doubt that the poisoning was due to consumption of beer. There are sixty breweries or wholesale beer-selling firms in Liverpool. Samples of beer were taken from all these, and arsenic was found in those from twenty.

The Polyclinic.

The second annual report of the Medical Graduates College and Polyclinic shows that there is ample room for extensive development, both charitable and professional, on the lines which the Polyclinic has laid down for itself. The council has decided to appoint corresponding associates in all the important cities of America, and the continent. It is also contemplated to expedite the spread of clinical knowledge by some means of association with the other polyclinics of the world, so that each may be able to learn the more important work carried on in the others. The annual dinner will be held on May 22, at which the Right Hon. A. J. Balfour, M.P., will preside. The subcommittees appointed to investigate leprosy, yaws, climatology and tuberculosis have held repeated meetings, and laid the foundation of what is hoped will prove useful information on these subjects. A most valuable feature of the Polyclinic is the Hutchinson Museum. It contains the enormous collections of portraits of disease, mostly in water-colors, made by Mr. Jonathan Hutchinson. The greater number are original. With the exception of the splendid collection of the St. Louis Hospital, Paris, disease in the living has never been illustrated on such an extensive scale. This museum, which may be described as his life-work, Mr. Hutchinson has presented to the Polyclinic. At one time the portraits formed his private museum at Park Crescent, where he held weekly clinics, which were rendered exceedingly instructive by the systematic use of the drawings to illustrate the malady of each patient. No one has insisted so much on the value of clinical illustrations of disease for purposes of instruction and even for investigation of disease, and certainly no clinician of any age or any country has made such use of them. Skin diseases, which lend themselves most readily to pictorial illustration, form the greater part of the portraits, but almost every disease which shows external changes capable of illustration is represented.

For an annual subscription of $5 a doctor has the use of the library and museum, admission to the consultations and clinical demonstrations which are held daily, and to special courses of lectures, permission to use the laboratory for private research on payment of a small fee, a copy (post-free) of the college journal, facilities for attendance at affiliated hospitals, reports at a nominal cost on sputum, blood, urine or morbid growths, the right to recommend patients for gratuitous consultations, and title to vote at general meetings. There are now 674 members and subscribers. Special tutorial classes are held in laryngology, ophthalmology, otology, applied anatomy, Roentgen rays, neurology, and clinical microscopy. For these a fee is charged. American practitioners in considerable number have availed themselves of the institution. The great advantage of the Polyclinic is that it brings to a focus in one institution, for the benefit of qualified practitioners, the best clinical teaching of the metropolis. The ordinary hospitals are devoted to the training of students, and the practitioner can there only pick up a few crumbs and feels himself very much *de trop*. The weak point of the Polyclinic is that it has no hospital of its own—no beds. Hence the practical teaching is confined to out-patients. To remedy this the Polyclinic has been affiliated with a number of the special hospitals, and some of the smaller general hospitals—at which there are no medical schools. A doctor can attend any of these daily for a month on payment of $5.

FOREIGN.

Albert's Successor.—The chair of surgery at Vienna left vacant by the death of Professor Albert, has been bestowed upon the professor of surgery at Königsberg, A. von Eiselsberg, a pupil and assistant of Billroth in his day.

Suspension of "Vratch."—The publishers of the leading Russian medical weekly, *Vratch*, have appointed Dr. Vladislawleff editor to succeed the recently deceased founder and editor, Professor Manassein. The publication will continue, as heretofore, until the end of the year when it will be suspended, as expressly stipulated in his will.

New Journal.—Prof. Japp. Sinclair, of Owen's College, Manchester, and others who are connected with gynecological and obstetrical work in England, are arranging for the publication of a monthly journal devoted to these branches. There is not, at present, a gynecological and obstetrical journal in Great Britain, except the quarterly published by the British Gynecological Society. It is thought that such a publication is needed and that it will be well supported.

Smallpox Epidemic at Glasgow.—The smallpox epidemic is seriously threatening the prospects of the success of the forthcoming Glasgow International Exhibition. The epidemic is the greatest in Glasgow for thirty years. Since it broke out there have been over 1000 cases and 134 deaths. In most of the fatal cases the patients were aged from 40 to 50 and were unprotected by vaccination. There are 370 patients now in hospital. In the past week 130 fresh cases have been admitted, 90 dismissed and 10 deaths have occurred. Additional sanitary inspectors have been appointed and a house-to-house visitation is being made to discover unvaccinated persons and to impress on all the necessity of re-vaccination. In the past fortnight 77,562 have been vaccinated. Mild cases of the disease are often regarded as chicken-pox or spots due to indigestion, and give great trouble to the health department, as they are difficult to discover and produce numerous "contacts" which cannot be traced.

Abandoning the Old Trousseau.—This famous Paris hospital for children is to be demolished and a street opened through the site. Its place is to be taken by three hospitals in different parts of the city. One of these, the Bretonneau, in Montmartre, is already completed and the little patients were transferred to it on March 8. The hospital occupies a triangular lot between three streets and faces a large cemetery on one side. It has a capacity of 244 beds and the building alone costs about $1600 per bed; $60,000 had to be spent on the foundations, owing to the slope of the site. Jayle, in an article in the *Presse Médicale*, criticizes the arrangements unfavorably, pointing out that the promiscuous mingling of the children at the one entrance invites contagion. The pavilions for contagious diseases are all connected by a gallery, except the one for diphtheria. He regrets that the opportunity was not seized to separate the contagious from other diseases, and devote one hospital exclusively to surgical cases, instead of combining all the services in each hospital. The two others will be opened this month; one will be known as the new Trousseau.

Progress of the Plague.—The census of Bombay City just taken shows a population of 770,000—a decrease of over 50,000 as compared with the census of ten year ago. This decrease is mainly due to the exodus which has occurred during the last two months of the plague epidemic. In Mauritius, for the week ending February 28, there were 12 new cases, of which 8 were fatal. The total deaths from plague were 18. The increase of plague at Capetown caused considerable alarm and anxiety. Recently four new cases were reported in one day. Rats have been found in the dockyard, dying of plague. Inoculation of the inhabitants is proceeding. The government has issued regulations preventing natives from leaving the Cape district without a pass, prohibiting shipowners from landing natives at Table Bay without permission, and compelling natives to move their location. One morning five corpses of colored persons dead from plague were found and ten colored persons suffering from plague sent to the hospital. A large number of "contacts" and suspects have been placed in quarantine. A hotel in the center of the city, in a grossly insanitary condition, in which a case of plague occurred, has been closed.

Association News.

Railroad Rates for the June Meeting of the American Medical Association.—The Committee on Transportation reports that the Western Passenger Association has granted the following rate for transportation through its territory for the St. Paul meeting of the AMERICAN MEDICAL ASSOCIATION: One fare (regular) plus $2 for its round trip from all points in the Western Passenger Association territory more than 200 miles from St. Paul. From points within that radius, one fare and one-third for the round trip. Tickets from points 200 miles and over from St. Paul are to be sold May 27 to June 3 inclusive, and from points within 200 miles of St. Paul May 27 to June 4 inclusive. Tickets are good for return leaving St. Paul May 29 to June 15 inclusive. These rates will be given to the other passenger associations by the Western Association for ticketing through. The Committee will endeavor to obtain a better rate with a stop-off privilege and a longer time limit. H. L. E. JOHNSON, M.D., Chairman Committee on Transportation.

Correspondence.

Illustrations with Articles.

ADIN, CAL., March 7, 1901.

To the Editor:—Can not the contributors to THE JOURNAL be induced to include drawings in their articles, as Dr. Stricker has with his article in the March 2 number? The articles now being published on middle ear diseases would be of unstated benefit to hundreds of young physicians who do not and can not get to see clinics of that nature. If they were accompanied by illustrations showing the anatomical parts and the different steps in the operative work of those who frequently meet and deal with them successfully, we would be far better prepared to deal with those unfortunate ones who fall into our hands as general practitioners.

Our knowledge is very limited at best, on the study of medicine and surgery, and the only way a great many of us have to learn it is by reading, being so situated that we can not go to hospitals and watch every step in operative work. Therefore, I believe the more experienced would remove a great stumbling block if they would give us drawings with their papers. Most of our text-books illustrate very well, but omit that which sometimes would be of the greatest benefit. For instance, take a leading work on appendicitis, and the author illustrates the pathology of the condition, and tells us all about the operation, saying that if we do not properly pack the wound, when there is suppuration, we will have done a bad job, but he does not give one drawing to show what he calls a properly packed wound. This leaves us to our imagination to understand from what we read, what a properly sutured appendiceal stump is and a properly packed cavity as well.

Yours truly, C. M. TINSMAN, M.D.

Seasickness: A Sure Preventive.

PARK CITY, UTAH, March 19, 1901.

To the Editor:—Apropos of the treatment of seasickness, given in THE JOURNAL of March 16, I offer the following: None seem to have a sure remedy of seasickness, and the main reliance appears to rest on massive doses of nerve sedatives. It is a question with many, which they would sooner prefer, the after-effects of the medicines or the seasickness. Dr. Rawlin's remedy to "elevate all the limbs" is, for good reason, impracticable, when it is remembered that, on a rough sea, the position of the body is constantly changing. Dr. Brunton's band age affords some relief; still, a better remedy is to plant the palms of the two hands on the abdomen and press hard toward the spinal column; but the good effect of either expedient is only temporary. If any one desires to experience genuine seasickness and to try his remedies for seasickness, he should cross the North Sea during winter; compared with the Atlantic Ocean, the waves of the North Sea are short and choppy. I there tried a simple contrivance, which I have never seen mentioned in articles on seasickness, and which served me excellently. I simply made a hammock from a blanket. It matters not how much the ship plunges or rolls, the hammock will practically stand still and keep the horizontal position. As long as I stayed in my hammock I experienced no seasickness, but if I left it when the sea was rough, nausea soon came on; as soon as I returned to the hammock the sensation of illness passed off.

E. VIKO, M.D.

The Edinburgh Tradition and Clinical Instruction.

ELIZABETH, Ill., March 20, 1901.

To the Editor:—The editorial on p. 670 of THE JOURNAL for March 9, on "The Edinburgh Tradition and Clinical Instruction," was read with much interest. I appreciated more fully perhaps its importance from having been instructed in an institution where the students, from the time they matriculate, are obliged to devote one-half of each day to clinical bedside instruction. This has been the practice, since its foundation in 1834, of the medical department of the Tulane University, New Orleans. The great Charity Hospital, so closely associated with this school, has given the faculty the opportunity to give bedside instruction. Since 1868 it has been the fixed regulation to divide the students into sections, each of which is taken in charge by a clinical professor and his chief of clinic. Bedside instruction is given each day in the hospital wards. Each student in a ward is assigned to a bed, and during the daily visits of a section to these wards, the individual student may at any time be called upon by the clinical professor to make a diagnosis, suggest treatment and offer a prognosis. This is done before the entire section, and the clinical professor is always there to make criticisms.

Since mention has been made in the editorial, calling attention to the superior methods used in several other medical schools, not of this country, the publication of this letter will point out that in our own country too, the "Edinburgh Tradition," in some schools at least, is also an established method.

Yours truly, PHILIP ARNOLD, M.D.

Medical Interstate Reciprocity.

DETROIT, MICH., March 23, 1901.

To the Editor:—In the interest of the movement aiming at interstate reciprocity for the license to practice medicine, and at uniform medical legislation, on the basis of uniform medical education, the undersigned, as member of various committees, asks all secretaries of medical boards to be kind enough to favor him with information in regard to the present status within their jurisdiction. It is especially important to know: 1, whether the respective medical law contains the reciprocity clause; 2, whether the profession in the respective political division is sufficiently familiar with the subject matters; 3, whether any amendments have been added to the law, since May, 1900, or whether there exists any intention to amend the law.

EMIL AMBERG, M.D.

270 Woodward Avenue.

The Yellow Fever in Port Limon, Costa Rica, in 1900. Reply to Surgeon-General Wyman, of the U. S. Marine-Hospital Service.

NEW ORLEANS, La., March 23, 1901.

To the Editor:—In reply to Surgeon-General Wyman's communication in THE JOURNAL of March 16 I will simply state that the fact that the representatives of the U. S. Marine-Hospital Service did not agree in the diagnosis of the representative of the Louisiana State Board of Health is no proof that Limon was not infected as early as July 17, 1900. The proof that the resident medical inspector of the Louisiana board was correct is that a few weeks later the natural evolution of the infection was so patent that it forced itself on the representatives of the service. EDMOND SOUCHON, M.D.
President, Louisiana State Board of Health.

Married.

SHERMAN A. ALLEN, M.D., Imogene, Iowa, to Mrs. Isabel Linton, of Shenandoah, Iowa, March 13.

H. STEPHEN HILL, M.D., Seattle, Wash., to Miss Marie F. La Barraque, of San Francisco, at Seattle, March 4.

CARL JOHNSON HOLMAN, M.D., St. Clair, Minn., to Eudora Madge Timmerman, M.D., of Mankato, Minn., March 14.

Deaths and Obituaries.

William F. Channing, M.D., University of Pennsylvania, Philadelphia, 1844, died in the Perry Hospital, Boston, March 19, aged 81. He lived in Providence, R. I., for a time after his graduation, and lately returned to Boston, after a residence for sixteen years in Pasadena, Cal., He published some of the first books on medical electricity, and was rather an inventor than a practitioner. The alarm telegraph, the hand receiver on the telephone and the marine railway were among his inventions.

Sherman A. Yule, M.D., Omaha Medical College, 1897, acting assistant surgeon, U .S. army, died from nephritis, in the Philippine Islands, March 4, aged 33. At the outbreak of the Spanish-American War he enlisted in the Funston Rifles and went to San Francisco. There he obtained his discharge in order to serve as an acting-assistant surgeon. He was on duty two years in Honolulu, and then was ordered to the Philippines.

James W. H. Lovejoy, M.D., Jefferson Medical College, Philadelphia, 1851, died at his home in Washington, D. C., March 18, aged 76. He served several times as president of the local medical society, was a member of the AMERICAN MEDICAL ASSOCIATION, one of the incorporators of the Garfield Hospital, and had been dean of the faculty of the Medical Department of Georgetown University.

Walter W. Medill, M.D., Medical College of Indiana, Indianapolis, 1889, a resident of Denver, Colo., for ten years, and a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in Denver, March 14, from pneumonia, after an illness of one week.

George C. Venable, M.D., University of Pennsylvania, Philadelphia, 1850, for 40 years a practitioner of Charlotte County, Va., and for the past ten years a resident of Lynchburg, died at his home in that city, March 14, aged 73.

John K. Clark, M.D., Missouri Medical College, St. Louis, 1882, a member of the AMERICAN MEDICAL ASSOCIATION, and for many years a resident of Chillicothe, Mo., died at his home in Denver, Colo., March 9.

Rufus D. Sperry, M.D., Albany Medical College, who practiced for many years at Red Oak, Iowa, died at the home of his son in Omaha, after a ten years' illness from paralysis, March 11, aged 81.

George C. Chapman, M.D., Vanderbilt University, Nashville, Tenn., was struck by a falling telephone pole and killed during the cyclone that devastated Birmingham, Ala., March 25.

Stephen F. Gano, M.D., Transylvania University, Lexington, Ky., for many years a leading physician of Scott County, died at his home in Georgetown, March 23, aged 94.

William Watson, M.D., College of Physicians and Surgeons, Baltimore, Ind., 1886, died at his home in Allegheny, Pa., March 16, after a prolonged illness.

Jacob J. Smith, M.D., Jefferson Medical College, 1864, a well-known physician of La Crosse, Wis., dropped dead from heart disease, March 16, aged 63.

Charles L. Stoddard, M.D., Pennsylvania Medical College, Philadelphia, 1860, formerly of La Crosse, Wis., died at Colton, Cal., March 16, aged 65.

Henry Worthington, M.D., College of Physicians and Surgeons, New York, 1874, died at his residence in Los Angeles, Cal., March 12, aged 49.

J. Frederick Hedgcock, M.D., Southern Medical College, Atlanta, Ga., 1895, died from pneumonia, at his home in Lake City, Fla., March 13.

Charles H. Bowen, M.D., Columbian University, Washington, D. C., 1862, died at his home in Washington, D. C., March 12.

New Instrument.

An Effective Electric Trephine.

S. S. BISHOP, B.S., M.D.
CHICAGO.

The accompanying cut shows the exact size of two electric tubular saws, or trephines, the smaller of which is the one in common use in surgery of the nose and its connecting cavities. This instrument is capable of rendering excellent service where little work is to be done; but it has several serious faults which the writer has overcome in devising the larger trephine.

In removing a large and long spur from the nasal septum, it is necessary to trephine through the center of the spur, then above and below the center in lines parallel with the first section, if the small trephine is employed. If the spur is longer than the tube of the trephine, the instrument ceases to cut as soon as it penetrates the distance of its own length, for the portion of the spur that enters the tube fails to pass out of the counter-opening as fast as it enters the tube, and it prevents the saw from entering further. This necessitates withdrawing the trephine, removing the cut portion of the spur and readjusting the trephine for proceeding with the cutting. Meanwhile the field of operation is likely to become covered with blood, and more time is lost in removing this in order to see what tissues one is attacking.

The large trephine has a counter-opening as capacious as can be made without sacrificing the strength of the tube, so as to allow the contents to pass out as fast as they enter. It is much longer than the average spur, so that it would operate more satisfactorily than the small trephine, generally, even if the counter-opening were smaller. Its generous diameter renders it necessary to drive the instrument through the tissues fewer times in order to remove a given amount of growth.

In operating on the maxillary antrum the large trephine gives better results than the other. By passing the large instrument once into the antrum a canal of good size is obtained. Formerly I have passed the small one twice, and more times in some cases, before obtaining a sufficient opening for free drainage and efficient treatment. The large trephine is well adapted for opening the frontal sinus and the mastoid antrum.

Miscellany.

Calculus Weighing Twenty-two Ounces.—The *Indian Medical Gazette* reports a case of removal of a vesical calculus weighing twenty-two ounces from a man of 50. It consisted of uric acid and earthy phosphates.

The First Lithotomy in France.—The *Jour. de Méd.* relates that the physicians and surgeons of Paris besought King Louis XI to let them experiment on a criminal condemned to death, in order to learn the technique of removing calculi. The king consented, and the operation was performed in public, January, 1474, in the open air in a cemetery. After the surgeons had finished, the intestines were replaced, the wound sutured and the patient soon recovered.

Etiology of Malaria.—C. Schwalbe, of Los Angeles, opposes the mosquito theory of malarial infection and, in a brochure njust received, *Beitraege z. Malaria-Frage*, No. 1, calls attention to discrepancies in the researches to date. He suggests that no attempts have yet been made to inoculate persons with malaria on the open sea, for instance, absolutely free from suspicion of malarial infection from any other source. The failure of all efforts to determine the germ of infection in the air has forced scientists to evolve the mosquito theory, but no one will maintain that we are yet fully acquainted with the chemical composition of the air under all circumstances. The causal agent of malarial infection may yet be found to be a certain gas or gases in the atmosphere. The air close to the ground during the night has never yet been studied with all the appliances of modern science in malarial regions, to his knowledge. The scientist who will be able to enter upon this research under these conditions will be, he thinks, the fortunate one who will solve the problem of the etiology of malaria.

Varicocele in Army Surgical Practice.—Surgeon-General Sternberg has issued a circular, dated Feb. 27, 1901, inviting the attention of medical officers of the Army to the cure of varicocele by surgical intervention. The circular states that the rule laid down in Tripler's Manual should govern medical officers in the examination of recruits, viz., that a candidate for enlistment should be rejected if he has a varicocele which is larger than the sound testicle. If, however, upon a subsequent examination after enlistment a recruit is found to have a varicocele as large or larger than the sound testicle, and complaint is made of disability arising from it, this should not be considered a cause for discharge but for surgical treatment. A former decision of the War Department is cited to the effect that, except in case of a capital operation involving the risk of life, a soldier can not refuse to submit to medical treatment or surgical operation without subjecting himself to trial by court-martial for wilfully avoiding treatment the purpose of which is to enable him to perform the duties for which he enlisted. The circular publishes reports on operative procedures in such cases, at the General Hospital Presidio, San Francisco, by Lieut. Col. A. C. Girard, deputy surgeon-general; at the General Hospital, Washington Barracks, D. C., by Captain W. C. Borden, assistant surgeon, U. S. Army; at the U. S. Military Academy, West Point, N. Y., by Major J. M. Banister, surgeon, U. S. Army, and at Fort Snelling, Minn., by Captain A. E. Bradley, assistant surgeon, U. S. Army. The operation by incision over the pubes on the line of the inguinal canal has given uniformly better results in the hands of these surgeons than by incision through the scrotum. An aseptic field can be obtained with greater certainty above than below the pubes. Major Banister concludes that: 1. The operation for the radical cure of varicocele by the high incision with ligation and excision of the veins is one of the most successful of surgical procedures. 2. The operation is without risk to life in the case of a patient without disease of vital organs. 3. It is well adapted to the military service. 4. No soldier otherwise sound should be discharged from service on account of varicocele. 5. It should be the duty of the medical department of the army to cure these cases, compelling compliance on the part of the soldier where objection is urged. Captain Borden is of the opinion that a varicocele which produces disability and which has originated in the service should not be considered a cause for discharge, but should always be operated on, provided the operator is so situated that he can be reasonably sure of asepsis. The circular closes with an extract from a paper by Lieut.-Col. N. Senn, chief surgeon, U. S. Vols., chief of operating staff with the army in the field, from his work on the "Medico-Surgical Aspects of the Spanish-American War," in which the writer comments on the frequency of the existence of varicocele in young men who presented themselves for enlistment. In 9815 recruits, 2078 were affected with varicocele. His experience was to the effect that of itself the varicocele seldom gave rise to any noticeable disturbance, and that the patients who applied for treatment did so in consequence of nervous disturbances entirely separate and independent of the enlarged spermatic veins.

Necessity for a Closer Union of the Medical Profession in Missouri.—Efforts are being made by the AMERICAN MEDICAL ASSOCIATION to bring about a closer union of the regular medical societies in the United States. At the last meeting of the ASSOCIATION a committee was appointed to consider and recommend a plan for a thorough organization of the profession of this country. At the present time there are about thirteen hundred regular medical societies in the United States, most of which were organized, and are acting, independently of each other. The result is a lack of uniformity or concert of action among these bodies. In most of the states no systematic attempt has been made to organize local societies on a specific plan, the result being no uniformity of purpose or action in matters pertaining to the welfare of the profession in the state, consequently there can be no united effort made—political or otherwise. If the profession is to become a united body the beginning must be made in the county medical society. These must be organized in every county of the state and in harmonious relation to the state organization, and this in turn with the national organization. The difficulties which have beset the efforts to secure legislation for the regulation of the practice of the healing art in this state show that the opposition on the part of those whose objectionable practices would be prohibited by it are strongly organized and are powerful, and have with them the powerful influence of the lay press to which they are a source of profit. It has also shown that the profession must be so organized and united as to utilize its fullest power for the purpose of combatting this influence and it must not be content to leave to the efforts of a few courageous and self-sacrificing members the burden of defeating a strong opposition which is daily becoming more powerful and which is daily making it more difficult to secure adequate protective legislation. The tendency in the commercial world is to a closer union with a concentration of energy and the development of its greatest forces. Such a plan must be followed by the profession; it must be brought to a realization of the power and influence that it can wield through a close and a thoroughly organized union of its members, and such an organization must be effected, *it has become a necessity.* The politician hearkeneth eagerly to the strongest influence, be that what it may, and the ability to reward and the fear of retaliation are the motives that most frequently govern the actions of the average politician. In order for the profession to accomplish its best results and secure its greatest influence, a medical society must be organized in every county in the state to which should belong every regular practitioner in that county. Every member of the profession in the state must be interested in the general welfare of the profession and every county society must be brought into a close working relation with the state organization. . . . The office of president of the state association should not be regarded simply as an honorary position, but as the administrative and executive head of the profession in the state, and the occupant of that position should be chosen for his fitness for it, and should be a man of good executive ability, one who may be able to promote the organization of county societies and to weld them in a strong cohesive body. To obtain recognition for its demands the profession must make its influence felt—politically if need be—and it must act as an unit in all matter of interest to it. To do this it must organize, and that thoroughly.—*St. Louis Cour. of Med.*, March.

Book Notices.

THE ESSENTIALS OF PRACTICAL BACTERIOLOGY. An Elementary Laboratory Book for Students and Practitioners. By H. J. Curtis, B. S., and M.D. (Lond.), F.R.C.S., Late Surgical Registrar, University College Hospital. Cloth. Pp. 291. Price, $2.50. New York and Bombay: Longmans, Green & Co. 1900.

This work will be found of practical value to the student or to the clinician who desires to refresh his memory in regard to details of investigation of certain subjects. Simple and reliable methods of staining are given, and the minutest detail is gone into in describing methods. The book is well illustrated.

DISINFECTION AND DISINFECTANTS. A Treatise on the Best Known Disinfectants, their Use in the Destruction of Disease Germs, with Special Instruction for their Application in the Commonly Recognized Infectious and Contagious Diseases. By H. M. Bracken, M.D., Professor of Materia Medica and Therapeutics, University of Minnesota. Cloth Pp. 85. Price, $1.00. Chicago: Trade Periodical Co. 1900.

This handy manual aims to present clearly the modern methods of disinfection which have come into common usage in recent years, especially since the introduction of formaldehyde and its use in various forms for disinfection. The author has had extended opportunity for practical tests and observations, as the secretary of the Minnesota State Board of Health, and the results of his study of methods employed as presented here are of value.

INTRODUCTION TO THE STUDY OF MEDICINE. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris. Authorized Translation by M. S. Gabriel, M.D., With Additions by the Author. Cloth. Pp. 545. Price, $5.00. New York: D. Appleton & Co. 1901.

The object of this work, which is a reproduction of a course of lectures delivered in 1897-98 at the University of Paris, is to give to those proposing to study medicine a comprehensive general outlook over the subject as a preliminary to more detailed study. The plan adopted by the author is first to show what the object of medicine is and the method of study and, after having explained why and how persons become sick, he considers the causes which tend to modify healthy conditions with the lesions and reactions which these determine, whether appreciable during life or after death. In this way he introduces pathologic physiology, pathologic anatomy and semeiology to the student. Therapeutics is only lightly touched upon, as might naturally be expected. While some parts of the book would seem to be suitable to advanced students as well as to the beginner, it is safe to say that the reading of the work will enable the beginning candidate for the medical degree to orient himself in the study of medicine far better than he could by his own selection out of the mass of medical literature. The average medical practitioner will also find the book instructive and serviceable. It is wholly up to date and practically authoritative. The translation appears to be fairly well made, and the printing and make-up of the book is excellent.

Societies.

COMING MEETINGS.

Tri-State Medical Society of Iowa, Illinois and Missouri, Keokuk, Ia., April 2-3, 1901.

Medical Association of the District of Columbia, Washington, D. C., April 2, 1901.

Tennessee State Medical Society, Nashville, April 9-11, 1901.

Florida Medical Association, Jacksonville, April 10, 1901.

Western Ophthalmological and Otolaryngological Association, Cincinnati, Ohio, April 11-12, 1901.

Medical Association of the State of Alabama, Selma, April 16, 1901.

Medical Society of the State of California, Sacramento, April 16-18, 1901.

South Carolina Medical Association, Florence, April 17, 1901.

Medical Association of Georgia, Augusta, April 17, 1901.

Louisiana State Medical Society, New Orleans, April 18-20, 1901.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.

Texas State Medical Association, Galveston, April 23, 1901.

American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.

Association of American Physicians, Washington, D. C., April 30, 1901.

South Carolina Medical Association.—The annual meeting of this Society will take place at Florence, April 17. Dr. James Evans of that city has been chosen to deliver the address of welcome.

Stevens County (Wash.) Medical Society.—The physicians of this County met recently and formed a medical society with Dr. Marcus R. Peck, Colville, president, and Dr. Matthew B. Grieve, Bossburg, secretary.

W. W. Keen Surgical Society.—The annual banquet of this Society was held recently in Philadelphia. Drs. W. W. Keen, James C. Wilson, Edward P. Davis, Hobart Amory Hare and W. M. L. Coplin responded to toasts.

San Joaquin Valley (Cal.) Medical Society.—The eleventh session of this Society was held in Fresno, March 13. The following officers were elected: Dr. Harry W. Taggart, Stockton, president; and Drs. Henry Hildreth, Delano, Nathaniel P. Duncan, Hanford, and Claeburne W. Evans, Modesto, vice-presidents.

Denver and Arapahoe Medical Society.—At its meeting March 12, the Society authorized the appointment of a committee to investigate and report on permanent headquarters with medical library, assembly hall and clubrooms. A committee was also appointed to watch the bills before the legislature, relating to the practice of medicine.

Newport (R. I.) Medical Society.—At a meeting of this Society, March 11, a proposed act was discussed under the provisions of which no physician or surgeon will be permitted to practice dental surgery. The Society entered a vigorous protest against this section, and a committee was appointed to take charge of the matter.

Society of Medical Jurisprudence.—This Society held its regular meeting, March 11, at the New York Academy of Medicine. Brevet Major-General N. Martin Curtis addressed the assembly, on "Capital Punishment—Unscientific and Futile." He maintained that it was an actual bar to the administration of justice owing to the prejudice of juries toward the death penalty.

Erie County (N.Y.) Medical Association.—This Association, which is an affiliated body with the New York State Medical Association, met March 11 and elected the following officers: Dr. DeLancey Rochester, Buffalo, president; Dr. William H. Jackson, Springville, vice-president; Dr. Arthur G. Bennett, Buffalo, secretary; Dr. Charles A. Wall, Buffalo, treasurer, and Dr. Alvin A. Hubbell, Buffalo, trustee for three years.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting held March 18.

Dr. William H. Welch in the chair.

A Curious Form of Peritoneal Tuberculosis.

DR. W. G. MACCALLUM presented an observation made in an autopsy. The peritoneal surface was smooth, with but little fluid, and embedded in it were numerous sessile nodules, many of which hung by pedicles in the peritoneal cavity. Some of the pedicles were long and slender, and entangled with their neighbors. Some were so deprived of blood as to be almost strangulated, and one of the nodules was free in the peritoneal cavity. Some of the pedicles have channels in their centers, lined with epithelium. These bodies are due to a traction on the peritoneal surface from the weight of the nodules. The latter have the characters of caseous masses and contain numerous tubercle bacilli. Definite miliary tubercles were not seen. These conditions are common in the perlsucht of animals, but rare in man. Only one similar case in the human subject has been described, by an Italian observer in 1867.

DR. WM. H. WELCH said that doubtless many of the pedicles are due to traction on the serosa, but another explanation is possible. There is a form of peritonitis where a vascularized

membrane forms on the peritoneum, analogous to that seen in pachymeningitis hemorrhagica, and some of the tubercles in Dr. MacCallum's case were doubtless formed in such a vascularized false membrane.

Lipomyoma of Uterus.

DR. J. H. M. KNOX had obtained this rare specimen, in an operation by Dr. Kelly, from a woman aged 62, the mother of thirteen children, the youngest being 24. She had had three miscarriages, the last twenty-six years before. The first symptoms occurred nine years ago, with a serous discharge lasting three weeks, but no pain. After some years the discharge reappeared, and again some weeks before the operation, which was done about sixteen months ago. There was never any pain, except on one occasion, when she had sharp pains like those of labor. The whole pelvis was filled with a firm mass extending to the umbilicus. There was nothing suggestive of anything more than an ordinary myoma until examination in the laboratory. Numerous oil globules could be pressed out of the mass, which was composed almost equally of muscular and fatty tissue. There was no fatty degeneration of the muscle fibers. Numerous eosinophilic cells were found grounded around the vessels, and a sessile polyp extended into the uterine cavity. The speaker reviewed the literature, in which very few such cases are to be found, and said that the specimen was of interest both because of its rarity and because the appearance may be due to misplaced embryologic elements.

DR. THOS. S. CULLEN, in 600 specimens of myoma in the hospital, had seen nothing like this. He said he had met at least three cases of malignant degeneration of a uterine myoma.

DR. WM. H. WELCH thought the explanation given by Dr. Knox correct, and he had lately examined a myoma, sent by Dr. Geo. Ben Johnston, of Richmond, in which, mingled with the muscular elements, were true bone and much mucoid tissue.

Advances Made in Medical and Surgical Diagnosis by the Roentgen Method.

DR. CHARLES LESTER LEONARD, of Philadelphia, presented a paper illustrated by lantern projections. The chief advantages are in fractures and calculi. In fracture without pain we can obtain more information than by manipulation. In impacted fracture diagnosis is impossible in any other way without great damage. It also aids greatly in securing coaptation and reducing. It may point out when reduction can be affected and when operation is necessary. The rule used to be to treat all suspected fractures as such; this is only justifiable now where we can not secure a Roentgen examination.

With this method we can absolutely detect or exclude all calculi. Early operation in pelvic or ureteral calculus, is of great advantage. Of 153 suspected cases examined, in 44 calculi were found; 25 of these were in the ureter. In one case several phleboliths in the veins of the broad ligament were shown in the plate.

DR. H. A. KELLY said that the apparatus was indispensable and he had provided himself with one for private use and also for teaching purposes. In one case where he had removed a stone from the ureter, he was surprised to find that several more remained behind.

CHICAGO PATHOLOGICAL SOCIETY.

Meeting held March 11.

Dr. L. Hektoen, President.

Primitive Splenomegaly or Anemia Splenica.

DR. MAXIMILIAN HERZOG read a paper based on a study of the literature of this subject and on two cases in which Dr. M. L. Harris performed splenectomy. Particularly one of the two cases, both of which got well after the removal of the spleen, had been studied carefully as two years had elapsed since the operation. Before the operation there had been present in this case a marked diminution of the erythrocytes, a low color index and an absolute and relative reduction in the number of the leukocytes. The blood had improved very much since splenectomy, and there had developed a marked eosinophilia. An examination of the spleens removed showed a marked endothelial proliferation with enlargement of the blood lymph-spaces—pulp-spaces. Herzog stated that he had in vain sought for many destroyed blood-corpuscles inside of lymph-endothelia, a picture as it is, for instance, found in typhoid fever. Considering the fact that the blood condition had always improved in all cases of splenomegaly in which splenectomy had been performed provided the patient did not die from the operation, it appeared conclusive that the changes in the spleen must be looked upon as the primary factor in the disease. We therefore must look to the pathologic changes in the spleen as the cause of the blood destruction. From an examination of the two cases, as well as from a study of the literature, it appears that no evidence can be found that lymphatic endothelia destroy the blood by directly taking up blood-corpuscles. Herzog, therefore, advances the theory that lymphatic endothelia of the spleen and of lymph glands secrete an erythrolytic ferment, and in this manner destroy old and worthless blood-corpuscles. We have in splenomegaly an enormous endothelial proliferation, and probably in consequence an enormously increased production of the erythrolytic ferment, which, when present in such a large amount, destroys many healthy blood-corpuscles. If the spleen is removed, the source of the increased production of the erythrolytic enzyme is removed, and the blood improves rapidly and permanently.

DR. W. A. EVANS referred to a case of Dr. Ferguson's, in which there occurred petechial spots in the skin and where the spleen became smaller before death. He spoke of a case reported by Dr. Dalton, before the London Clinical Society, which was clinically one of splenic anemia, but at autopsy the enlargement of the spleen was discovered to depend on passive congestion, due to constriction by an anomalous colon.

DR. LEO LOEB declined to accept the theory of an enzyme which destroys the red blood cells in the spleen.

DR. E. H. OCHSNER referred to a patient who clinically presented splenic anemia, and who improved for a time after the spleen was removed, but subsequently died. There were a few small tuberculous peritracheal glands found at autopsy. A possible infection in such cases must always be considered.

DR. B. W. SIPPY spoke of the similarity of these cases to the ordinary lymphatic pseudoleukemia as regards blood changes, general asthenia, etc., a similar enlargement of the spleen also being observed. In many cases of splenic anemia there is enlargement of the lymph glands, although it may be slight. In all cases the bone marrow has been converted into a fetal condition, like that found in many cases of pseudoleukemia lymphatica. He objects to the term "splenic anemia," and considers the one "splenic pseudoleukemia" to be the proper one. He believes the primary cause can not be positively located in the enlargement of the spleen. In the case described by him, the fibrous changes were much more marked than in Dr. Herzog's. This he thinks may depend upon the longer duration of the disease.

DR. P. KEYES said that in the specimens of Dr. Herzog, the proliferation involves all the structures of the spleen, and such a condition can not be due to a primary proliferation of any one element, as the endothelium.

DR. T. R. CROWDER presented sections of an amyloid spleen with unusually distinct endothelial linings in the vascular spaces.

DR. M. HERZOG, in closing, said that he did not claim that there was proliferation of the endothelium alone, but that the increase in the endothelium was enormous, so much so that the condition had been mistaken for an endothelioma. Dalton's case had not been considered, as it was too indefinite. One reason for separating these cases from lymphatic pseudoleukemia is because they are curable by operation.

Pancreas Annulare.

DR. THEO. TIEKEN exhibited a specimen of pancreas annulare, with resulting constriction of the duodenum so that a large fusiform sacculation of the latter had formed.

Blastomycosis.

DR. H. M. RICKETTS presented specimens of experimental general blastomycosis in the lung of a dog, produced by the intravenous inoculation of an organism obtained from a case of blastomycosis of the human skin.

MEDICAL SOCIETY OF RUSH MEDICAL COLLEGE.

Meeting held March 4.

Acute Ulcerative Endocarditis.

DR. THEODORE TIEKEN demonstrated a specimen of this condition, with a large perforation in the posterior segment of the aortic valve, and almost complete destruction of the anterior cusp by the ulcerative process. The valves were covered with large vegetations, many of which were calcified. The mitral valves were likewise studded with vegetations, which extended down the chordæ tendineæ as far as the apex of the papillary muscles. In addition to the ulcerative process on the aortic valves, an area of ulceration was found at the attachments of the bases of the semilunar valves which extended through the walls of the aorta, into the peri-aortic space. The heart was greatly hypertrophied and showed some interstitial fibroid changes. In the same case were found an annular pancreas and a sacculation of the duodenum, caused by the constriction of the intestinal lumen by a band of glandular substances, springing from the head of the pancreas in such a manner as to entirely encircle the lower part of the duodenum—descending portion, forming a true "pancreas annulare." The pancreas was normal in size and consistency, and cut with about normal resistance. The head measured 4 cm. in its vertical and 3.5 cm. in its transverse diameter. The annular portion measured 2.75 cm. at its narrowest portion and was 1 cm. in thickness. The ducts were in every way normal, and no abnormality was noticed in its vascular supply. In a hurried review of the literature he was able to find only four other cases reported to date. Although the patient had been under observation for nearly a year, no symptoms referring to the gastro-intestinal tract were ever manifested during life.

Obstruction of Popliteal Artery.

DR. JAMES B. HERRICK presented a specimen showing obstruction at the bifurcation of the popliteal artery, produced by an embolus from the heart, the seat of chronic valvular and myocardial disease.

Suprarenal Tumor.

DR. HERRICK also showed a specimen of a suprarenal tumor where the tumor mass had invaded the inferior vena cava. This finding, which had been suspected during life, explained the early occurrence of an edema of the lower extremities, and had been one determining factor in deciding against operation for the removal of the kidney.

Lymphatic Leukemia.

DR. HERRICK also showed specimens of blood from six cases of lymphatic leukemia. He referred to the unknown etiology of the disease, to its clinical separation into acute and chronic varieties, to the resemblance of the former to an acute infection and of the latter to Hodgkin's disease, and also dwelt upon the variations in the blood picture as shown in his six cases. The statement so frequently made, that in lymphatic leukemia nucleated red corpuscles are very rare, was disproven in four of the six cases, three acute and one chronic, and specimens were exhibited showing numerous nucleated red blood-corpuscles. He spoke also of the great variety in the picture presented by the blood, according as the larger or smaller mononuclear forms prevailed in a given case. In one case, a rapidly acute one, there had been about 2 per cent. of myelocytes. Another interesting combination he had seen was that of a patient with carcinoma of the neck and jaw, with diffuse hyperplastic enlargement of the lymph glands and with the typical findings of a lymphatic leukemia, the blood counts never showing less than 100,000 leucocytes.

Interparietal and Intraparietal Aneurysms.

DR. L. HEKTOEN presented several specimens illustrating interparietal and intraparietal extension into the heart of aneurysm of the beginning of the aorta, and of dissecting aneurysm of the heart. He described the spatium periaorticum cordis of Vestberg. The spatium periaorticum cordis is situated at the root of the aorta, and is covered by the reflection of the epicardium as it passes over the aorta behind the auricles and forms the floor of the sinus transversus pericardii. It is in this space that interparietal dissecting aneurysms of the heart most frequently are found by rupture or ulceration of its internal wall, the aorta. The specimens demonstrated illustrated the formation of dissecting aneurysm in this space as a consequence of ulcerative endocarditis of the aortic valves, and in consequence of the rupture into the space of small aneurysms in the beginning of the aorta developing primarily upon the basis of a syphilitic aortitis.

He also demonstrated a specimen of a large interparietal aneurysm in the right ventricle, originating in the sinus Valsalvæ of the aorta, and also an aneurysm originating in the left ventricle by two small openings, and forming a large cavity upon the lateral and posterior aspects of the left ventricle. The post-mortem in this case was made by Dr. Le Count, and the question as to the dissecting character of this aneurysm was discussed, the conclusion reached being that the aneurysm most likely originated in a suppurative process in the myocardium, and probably reached its present large extent in consequence of more or less dissection of the walls of the left ventricle.

Relief of Portal Obstruction.

DR. H. GIDEON WELLS reported two cases illustrating relief of portal obstruction in hepatic cirrhosis by plastic peritonitis. In one the condition was found at autopsy, there having been no evidences of obstruction during life: the numerous adhesions of a chronic fibrous peritonitis were found largely replaced by thin-walled vessels, full of venous blood, up to the size of a crow's quill. The portal obstruction was due to an obstructive biliary cirrhosis from impaction of a calculus in the common bile-duct. The other case was that of a man with excessive ascites of about twenty months' duration, requiring frequent tapping, and due to alcoholic atrophic cirrhosis. A large umbilical hernia, resulting from the ascites, became strangulated and was reduced by operation. No attempt was made to establish a plastic peritonitis, and there was but little intra-abdominal manipulation, yet the ascites never recurred up to the time of the patient's death, eleven months later from carcinoma of the pharynx.

OMAHA (NEB.) MEDICAL SOCIETY.

Meeting held March 12.

Need for More Thorough Physical Examination of the Abdomen.

DR. W. O. BRIDGES, in a paper on this subject, pointed out that the neglect of abdominal examination is a serious omission. He suggested a few of the important points of information, lost not only in diseases of the abdominal organs, but also in the failure to observe changes in abdominal organs which are a part of the pathology of constitutional diseases, and changes due to diseases of distant organs. We are too apt to draw conclusions from answers given and to fail to make painstaking examinations of organs so accessible. We are often asked why appendicitis, movable kidney and gastroptosis are more common now than formerly. The proper answer should be that they only seem more common because, hitherto, physicians have been too neglectful to investigate the abdomen. The literature on these conditions has been written, practically, in the last dozen years. The life insurance examination blank should require the same investigation as to the liver, spleen, kidneys, stomach and appendix as is now demanded for the heart and the lungs. The technique of examination is really very simple. Anesthesia will seldom be required. Inspection reveals some things. Distention or retraction, and prominence of veins should always be noticed. The character of the respiration, if abdominal, should be observed.

In many infectious diseases, particularly malarial and typhoid fevers, changes in the liver and the spleen are easily discoverable by palpation and percussion. These changes should be searched for daily, for the degree of change is a guide to the probable severity and duration of the disease. The persistence of a palpable spleen in typhoid fever, after cessation of fever, should warn of relapse or a sequel, and forbid the getting up

of the patient, no matter how favorable everything else is. In malaria, specific treatment should be carried on until both spleen and liver are no longer palpable. Chronic diseases of the heart and lungs frequently produce great enlargement of the liver and spleen, and fluid in the abdominal cavity long before there is edema of the feet. In the anemias, the spleen should always be examined, for the grave cases only show enlargement of this organ. In many instances, affections of the abdominal organs produce effects elsewhere which are often very misleading. Precordial pain is often the result of pressure from a dilated stomach. Dyspnea, cyanosis, edema of the feet with coldness and numbness, irregularity of pulse, all can arise from enlargement of the liver or spleen, excessive tympanites, or an abdominal tumor. The pain of biliary colic is often referred to the right shoulder, and hepatitis, peri-hepatitis and abscess of the liver may simulate affections of the right pleura. A supposed pneumothorax has been proven to be hernia of the intestines through the diaphragm. Pus from an appendiceal abscess will sometimes burrow to the diaphragm and press it upward, simulating an empyema, or it may perforate the diaphragm and produce a purulent pleurisy. We are all familiar with melancholia and hypochondriasis as the result of disturbances of the stomach and liver. Dilatation of the stomach, gastroenteroptosis and movable kidney disturb greatly the nervous systems of women, and many a hysterical woman, whose affection is due to one of these conditions, travels the rounds without the real cause of her hysteria being detected. Reading Tolstoi's "Ivan Ilyitch" will give one a better idea of the relation of an abdominal organ to the nervous system than will a medical text-book, for the hero had a movable kidney, and the details of his life-history are painted far better than they could have been by the most celebrated neurologist.

A few illustrative cases were reported. Miss S., aged 22, had been a sufferer for months. She had cough, fever, sweats, emaciation, absence of respiratory function in the lower right lung. A diagnosis of pulmonary tuberculosis had been made. Close interrogation developed an early history of pain in the abdomen. An abdominal examination revealed a large appendiceal abscess, operated on later by Dr. Jonas, with slow but complete restoration to health.

Mrs. K., aged 34, gave a history of former and recent biliary colic without jaundice. She had fever, rapid pulse, nausea, vomiting and marked nervous symptoms. Two physicians in attendance had not made careful physical examination, and an extremely tender, movable egg-shaped tumor was found in the gall-bladder area. The diagnosis of empyema of the gall-cyst was proven by an operation made by Dr. Summers, which resulted in recovery.

Mrs. H., aged 30, was supposed to have passed through a malarial fever with slow convalescence. She had abdominal pain, nausea, vomiting, chills, fever, sweats, and jaundice; these had been present for several weeks. Examination showed a movable, tender tumor beneath the liver, the size of a small orange. It was diagnosed as a distended gall-bladder. Operation by Dr. Jonas proved the mass to be an empyema of the cyst, with calculi. Recovery took place.

Mr. H., aged 36, a hypochondriac of the worst kind, had been treated for years for dyspepsia, and had become an expert with a stomach-tube and was a superior dietist. After failure of treatment based on analyses of the stomach-contents, a more careful physical examination revealed a movable kidney of the third degree. This seemed to be the key to the situation, and Dr. Summers made a nephrorrhaphy which promised well for a time. Relapse, however, took place with the kidney fixed and later a surgeon in another city found many adhesions near the junction of the pylorus and duodenum, which he liberated. Again improvement followed for a short time. The latest report is that a third surgeon opened the gall-bladder and removed thirty to forty calculi, and the results of this are not yet known.

Crushing Injury.

DR. BRIDGES briefly reported the case of a man who was caught between the bumpers of two cars, and suffered from crushing of the chest. His attention was called to the patient by reason of the fact that, during inspiration, there was recession of the right chest with expansion of the left; during expiration, expansion of the right chest and recession of the left.

WILLS' HOSPITAL OPHTHALMIC SOCIETY.

Meeting held in Philadelphia, March 11.

Dr. S. D. Risley in the chair.

Sympathetic Ophthalmitis.

DR. FRANK FISHER presented a case of sympathetic ophthalmitis coming on after a panophthalmitis which had followed a cataract extraction, the patient being 64 years of age. He laid special stress on the age at which the ophthalmitis had developed, and the long period of time elapsing between the condition and the cataract extraction.

DR. WILLIAM ZENTMAYER inquired whether it is not rare for the disease to evidence itself in cases in which there is panophthalmitis. In answer to Dr. John T. Krall's question whether the fundus of the sympathizing eye had been examined,

DR. FISHER stated that when he saw the case the eye-ground had become invisible.

DR. S. D. RISLEY asked whether subconjunctival injections of solutions of chlorid of sodium had ever been tried by any of the members of the staff.

DR. WALTER L. PYLE expressed belief that the occurrence of sympathetic inflammation after panophthalmitis depends on the amount of destruction of the globe. He believes that if there is decided scleral rupture and escape of most of the intraocular contents, sympathetic ophthalmitis is not likely to follow.

DR. CHARLES A. OLIVER said that all attempts to do useful iridectomy in such cases are futile, the iris-tissue being brittle and friable; while any obtained good results are rapidly lost. He has been successful in several instances, by either the Gritchett-Story operation or Tyrrell's method of drilling. He has never employed subconjunctival injections to any advantage, nor as yet made use of large doses of the alkalies, but if lymph formation and circulation are good the former method might be of assistance.

False Maculae.

DR. GEORGE C. HARLAN presented a case of false maculæ. The patient, a white man, 23 years of age, whose family and personal histories were negative, had squinted since childhood. He could use either eye. On Feb. 23, 1900, he was admitted to the hospital with an esotropia of 40 degrees, preferably fixing with the left eye. A tenotomy of the right internal rectus muscle, with an advancement of the corresponding external rectus, was done, leaving a residual squint of about 10 degrees. Two weeks later similar operations were performed on the left eye, with the result of an overcorrection of 10 degrees. On January 23, of this year, the perimeter showed 10 degrees of esotropia. The Maddox rod gave 20 degrees of crossed diplopia. At this time a tenotomy of the right external rectus muscle was done, allowing both eyes to fix centrally, but the crossed diplopia remained the same. One week later it was found that the esotropia of 10 degrees still persisted. There was no monocular polyopia. During fixation with both eyes a crossed diplopia of between 8 and 16 degrees, with a hypophoria of 0.5 to 2 degrees could be determined.

Extraction of Foreign Body from Vitreous.

DR. C. BERENS presented a case of successful extraction of foreign body from the vitreous chamber, with a resultant vision of 6/9 of normal. The patient, a man 38 years old, came to the hospital on Feb. 12, 1901, with the history of having been struck in the left eye one hour previously, by a chipping from a hammer. The external wound, which was vertical and 3 mm. in size, was situated in the cornea, 5 mm. from the nasal limbus. There was a corresponding wound in the iris. The pupil was 4 mm. in size, and central, and the iris reacted well. Under atropin the pupil enlarged to 8 mm. There were numerous vitreous opacities anteriorly, and some posteriorly. The details of the eyeground were slightly veiled. Far down and to the inside two semilunar areas, one of which at first showed a suspiciously bright point, could be seen. Under the Doctor's

guidance, the senior resident surgeon enlarged the corneal wound down and in, did an iridectomy, and placed a magnet tip toward the side of the retinal laceration. Three unsuccessful attempts were made in this direction. Dr. Berens took the tip and inserted it twice, the second time down and out, recovering a piece of steel from that locality. Atropin was instilled and a bandage applied. On the next day there was slight reaction, but no pain. Two days later there was a moderate injection. At this time the patient could tell time on a watch, at one-half meter's distance. In eight days the eye was quiet, and vision equalled 6/20 of normal. The eye-ground could be distinctly seen. Four days after this vision had arisen to 6/9 of normal, and the eye was quiet.

Double Coloboma.

DR. C. A. OLIVER exhibited a case of double coloboma of the iris, chorioid and optic nerve, with unusually small corneæ in an Italian girl of 16. As far as could be ascertained, there was no history of inheritance, nor were there any other signs of congenital malformation present. The colobomata were in their usual positions downward and slightly inward, those of the right eye being the larger. The characteristic curvilinear extension of the retinal vessels along the borders of the colobomatous areas could be plainly seen. The surfaces of the colobomata of the fundus, which were on a much deeper level than the rest of the eye-grounds, were quite ectatic in places. Refraction in the uninvolved macular regions was myopic and slightly astigmatic. Corrected vision equalled about two-thirds of normal. The visual fields showed defects corresponding with the fundus abnormalities. Both optic nerve heads were considerably enlarged. The retinæ in the colobomatous areas were visible as thin, almost transparent, membranes over and in which a few small vessels could be traced. The case was particularly interesting in the fact that, in spite of the apparent microphthalmus, the eyeballs were enormously lengthened in their anteroposterior diameters, giving high degrees of myopic refraction.

Spontaneous Extrusion of Iron from Eyeball.

DR. OLIVER also showed a patient from whom a chip of iron had been spontaneously extruded from the eyeball two years after its entrance into the crystalline lens, through the cornea and the iris. No reaction followed the expulsion of the foreign body. The lens itself had been studded with brilliant cholesterin crystals for more than a year.

Plastic Operation in Symblepharon.

DR. C. BERENS presented a case showing the recent effects of plastic operation for symblepharon, in which the conjunctiva of the upper lid had been adherent to the cornea over more than two-thirds of its surface, entire freedom of motion being restored to the globe.

Interstitial Keratitis

DR. OLIVER also gave a brief account of a case of interstitial keratitis occurring in the left eye of a man of 24, suffering from other stigmata of hereditary syphilis. He had treated and cured the patient's right eye for a similar attack of keratitis some six months previously. The point of interest in the case consisted in the fact that at the time of the patient's second admission to the hospital, some three weeks previously, the senior resident surgeon discovered a sloughing chancroid involving almost the entire foreskin of the patient's penis, necessitating excision of the sloughing part of the organ.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting held March 13.

Dr. George Erety Shoemaker in the chair.

Appendicitis and Cystic Ovary.

DR. C. F. NASSAU reported and presented specimens from a case of appendicitis and cystic ovary. The patient at one time had given the history of extra-uterine pregnancy, and a soft fluctuating mass had been found in the abdomen. An operation had been done and the uterus was found to have no supports. Later the patient suffered from uterine hemorrhages, and the odor characteristic of carcinoma was present. The abdomen was again opened and a perforation of the appendix found. It was noticeable that seven weeks previous to the operation the right ovary had been healthy, but it had within that time undergone cystic degeneration and was several times the size of the normal organ.

Case of Appendicitis.

DR. MORDECAI PRICE reported a case that, a few days before, showed abdominal symptoms with great distention. The patient had taken enormous quantities of purgative medicines without avail. He was entirely unable to pass gas from the bowel. The patient died March 12, and at the autopsy a perforation of the appendix was found. The duodenum showed induration, and it might have been malignant in character. Another obstruction was in the region of the appendix, and thus the ilium was obstructed at both ends.

Postpartum Metastatic Panophthalmitis.

DR. W. L. PYLE read a paper on this topic. He stated that this condition is rare in this country. The symptoms are usually manifested within the first fifteen days after delivery. Unilateral panophthalmitis is the most common, and this may occur after normal labor. Early ocular symptoms may begin by loss of vision, slight hypopyon, burning of the orbit, and finally an abscess forms followed by destruction of sight. The condition is essentially a septic one, and pyogenic microorganisms of different kinds have been discovered. The prognosis as to vision is hopeless. The treatment in the early stages consists in the instillations of atropin, and the application of hot compresses. Should an abscess form, it should be incised and drained carefully. The speaker detailed a case.

DR. W. REBER said he had seen two cases of metastatic ophthalmia. He believes the usual seat of infection is in the choroid.

Obstetric Forceps.

DR. R. C. NORRIS made some remarks on obstetric forceps employed by the general practitioner, and also on treatment of arrested position of the occiput. He thinks the employment of obstetric forceps during labor should be regarded as a major operation, and as of equal importance with an abdominal section. Absolute sterilization should be employed. The instruments should be placed preferably in boiling water for at least ten minutes. The hands should be sterilized, first with soap and water, and afterward with bichlorid solution. It is a mistake to think that sterilization can be made complete by simply laying the instruments in an antiseptic fluid. The vagina must be thoroughly scrubbed with soap and water, but a vaginal douche is not necessary unless a foul discharge has occurred. In forceps delivery rubber gloves should be employed. In all cases previous to the application of the forceps the position of the child must be determined. The head should be delivered through the vaginal ring, by means of the forceps. In 83 per cent. of the cases in which he had been called in consultation by general practitioners, the occiput was in a posterior position and failed to rotate anteriorly. One of the most common causes for this is incomplete flexion of the head. In some of these cases, external and internal manipulations are frequently insufficient to correct the faulty position. The reversed forceps operation should only be employed by a skilled obstetrician. When flexion is incomplete, backward rotation of the occiput is prone to occur, and in these cases forceps are useful as tractors. As rotators, he has more recently come to use the solid blade forceps of the Tucker pattern. Reversed forceps as rotators should be condemned.

Treatment of Placenta Previa.

DR. CHARLES P. NOBLE read a paper entitled "The General Considerations of Treatment of Placenta Previa." He reviewed the literature on the subject. The mortality to the child is probably 50 per cent. and to the mother 5 per cent. The induction of premature labor is one of the most important plans of treatment. About the seventh month of gestation, the hemorrhage is severe and, if life is endangered, pregnancy may be terminated. Prior to this period, if the hemorrhage is recurrent in character the same procedure may be carried out. If

the cervix is dilated the fingers may be inserted and a Barnes bag may be introduced and inflated by means of a syringe. It is always advisable to determine beforehand how much water the bag will hold. If hemorrhage is profound, version may be done. If the placenta is marginal, it may be left to Nature, as advised by Murphy. The rapidity of the fetal heart indicates the condition of the child. In these cases there is always increased liability to infection, and the parts should be sterilized as far as possible. Rubber gloves are to be recommended.

Cesarean Section in Placenta Previa.

DR. GEORGE M. BOYD read a paper on "Indications for Cesarean Section in Placenta Previa." At the Philadelphia Lying-in Charity, placenta previa occurs in about 1 to 170 deliveries. The speaker would recommend that an examination under ether be made in order to determine the position of the fetus, as well as dilatation of the soft parts.

DR. BARTON COOKE HIRST said it is unnecessary to exaggerate the dangers of occipito-posterior positions, since this condition occurs in probably 25 per cent. of cases of labor, and of this number there are probably only 5 per cent. which failed to rotate. He has known of cases of this position in which forcible rotation of the head has not been followed by rotation of the body. In certain instances in which there has been damage to the pelvic floor, even without a tear, he has put in stitches to restore strength to the parts.

As to the treatment of placenta previa, he has met with twenty-four cases without having lost any. He thinks the usual mortality to the child is about 50 per cent. and to the mother 1 per cent. He does not consider Cesarean section necessary in these cases.

DR. W. REYNOLDS WILLSON said that it is immaterial whether the blades of the forceps are applied to the sides of the child's head or not, in many cases. He could not agree with Dr. Norris in rotation by means of forceps, when the occiput is in a posterior position, because of the danger to the mother. As to the treatment of placenta previa, we should consider this condition in two classes: 1, those which might be called emergency cases; and 2, those which can be watched. In many of these cases it is unnecessary to resort to artificial dilatation, since this has been usually accomplished when the case is seen. Death generally results from shock in placenta previa.

DR. MORDECAI PRICE, as to the use of forceps, believes that these instruments do more harm than good to the child. He has never seen a Simpson forceps which slipped. As to the treatment of placenta previa, he believes that pregnancy should be terminated at once. If the placenta is centrally located, he believes in going straight through it. There is no hope through delay. To do Cesarean section is carrying it too far.

DR. STRICKER COLES believes that in cases of posterior positions of the occiput the most important thing to do is secure flexion.

DR. J. M. FISHER said it is often difficult to make a diagnosis of the exact position of the fetus. He has seen only two cases in which the occiput failed to rotate anteriorly.

THE CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Meeting held February 28.

The President, Dr. Melville T. Hardie, in the chair.

Thyroid Tissue in Trachea.

DR. OTTO T. FREER exhibited a patient with typical thyroid tissue in the trachea. He had shown the patient three years previously.

Functional Tests of Hearing.

DR. W. L. BALLENGER referred to the controversies regarding the value of the functional tests in the diagnosis and prognosis of aural diseases, pointing out that much of the discussion has arisen on account of exceptions to the general rules, and that the continuous and increasing use of these tests by otologists is a fair indication of their recognized utility. He next laid down the physiologic facts of hearing, aural and bone conduction, and the principles underlying the tests, the range of normal hearing, the impairment in hearing low or high tones according as disease affects the conduction or perceptive apparatus respectively, and the difference between bone and air conduction in normal and in pathologic states. In the application of the tests constant practice is essential to estimate correctly their indications, hence the necessity of their routine utilization.

The various tests were reviewed. The most valuable physiologic methods are, he thinks, those with tuning-forks and whistles, and the best outfit for making a complete test of the range of hearing is the Bezold-Edelmann set. The Weber test he finds most reliable in unilateral middle ear disease, somewhat less so in labyrinthine disease, and least of all in chronic middle ear affections. The Schwalbach test was also described, and its modification, the Rinne, which, while not as reliable as the Weber, should always be used with the others. If in examination there is a correspondence between the results of the Weber, Schwalbach and Rinne tests, the latter is an additional proof of the pathologic condition present. Also the nonaccordance of the tests may lead to valuable deductions sometimes as to the locality of the disease. The tuning-fork best suited for the Rinne test is C^2 512, although one two octaves higher may be used. Unlike the Weber test, low forks are not satisfactory.

The author's personal experience with the Gelle test does not warrant him in expressing an opinion as to its value. According to Politzer, it is of value only in very severe deafness, and Ballenger thinks this is also true of Bing's test, No. 1. Bing's second test was also described, as well as the condition recently denominated spongifying of the labyrinth, but which was first described by Bezold twelve years ago.

In conclusion, Ballenger says that he has found many of these tests he describes of great value, though in many cases the information they give can also be obtained without their aid. In special cases they are of particular utility.

DR. J. HOLINGER said that from the characteristic restriction of the function of the hip-joint we make the diagnosis of hip-joint disease. From restrictions of the function of the eye the oculist makes nearly 75 per cent. of his diagnoses. Hearing tests for diagnostic purposes are very recent. Those spoken of were mostly known before the seventies of the past century. But it was Professor Bezold who brought a system into those tests, and Bezold and Siebenmann proved by post-mortems that the system upon which they based their diagnosis was correct.

To test the hearing watches have been abandoned very largely, because they are not uniform. They can not, therefore, give results which allow comparison. Why not use the voice as long as we know its range is comparatively limited, and we always have it at our disposal? The essayist makes a distinct difference all through and gives some tests for middle ear disease; others for diseases of the labyrinth, etc. These tests vary considerably, owing to the condition of the middle ear or of the drum. Therefore, the examination with the funnel must precede. The differential diagnosis between disease of the Eustachian tube and an affection of the labyrinth or oval window can be made by comparing the results of all examinations with the normal. In an affection of the tube, if the drumhead is retracted and the middle ear comparatively emptied of air, we get three distinct symptoms by the tuning-fork tests, which are the same as in spongifying of the labyrinth. First we have negative Rinne; then an increase of bone conduction for the lower sounds; then a decided lack of hearing for the lower sounds by air conduction. The moment we inflate the middle ear through the catheter we create normal conditions in cases of affection of the tube. We have normal Rinne; we have normal bone conduction and normal lower sound limits. In spongifying of the labyrinth there is no change after inflation. Whenever we use these different tests we must ascertain first the condition of the drumhead. The test of Gelle was referred to by Dr. Ballenger. In the works of Bezold it did not find place. He dropped it for good reasons. The test is quite indefinite.

The essayist has told us that spongifying of the labyrinth occurs mostly at from 18 to 30 years of age. I would like to lay stress on the point that it *begins* at that time, continues for a longer or shorter period, and remains stationary thereafter. This is an important point to remember.

The three cardinal tests for spongifying of the labyrinth are negative Rinne, increase of bone conduction for A tuning-fork and the loss of the lower sound limit in normal condition of the drumhead.

DR. ALBERT H. ANDREWS said there are certain inaccuracies in most of the tests described. He finds the watch test of very little value, except in recording the changes which occur in the course of treatment or in the progress of ear disease. With regard to tuning-forks, each one has an individuality of its own. He has a number of forks that are C^2 512, but with one, with which he has made a great many experiments, the average relation in the normal ear between bone conduction and air conduction is in the relation of about five to six, bone conduction being about five-sixths of the time of air conduction. With another fork having the same number of vibrations per second, bone conduction is less than one-half that of air conduction.

He emphasized the point made by Dr. Ballenger, that in reporting functional tests it is necessary to determine and report the characteristics of the fork used in order that we may have a proper understanding of the tests given. As to functional tests with the voice, conversational tones range from about 80 to 256 vibrations a second, while the extreme limits of the human voice run from perhaps 64 to 1000. In testing the hearing ability for conversation, forks should be used ranging from 68 to 256.

DR. WILLIAM E. CASSELBERRY suggested that the essayist state what he considers the proper distance to hold the fork from the ear in testing air conduction. The results which will be obtained, especially with the Rinne test, will vary according to the distance at which the fork is held from the ear. In border-line cases a positive Rinne might become negative Rinne if the fork be held some distance from the meatus. The usual inexact instructions are to hold the fork opposite the meatus—it might be 1 cm. from the meatus, or many centimeters, and still be opposite.

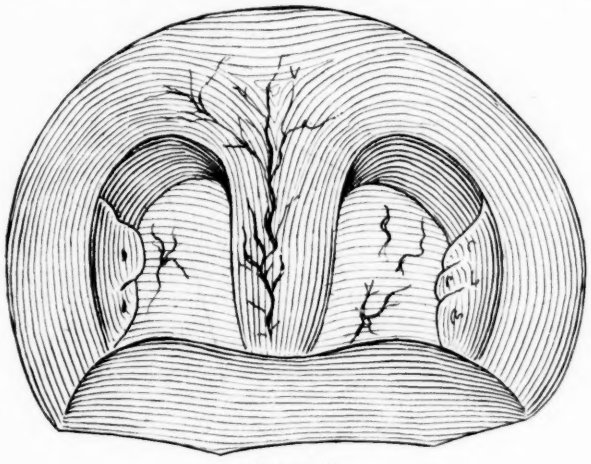

FIGURE 1.

DR. BALLENGER, closing, said, in reference to Dr. Holinger's remarks concerning the stapedius muscle, that he only mentioned the opinion of Rumbold, and not his own. As to the watch having practically been dropped as a test, he is not using it as much as formerly. It is of some value, however, as a test for ascertaining the progress that is being made during the course of treatment. Referring to the remark of Dr. Andrews that his fork shows a relationship on the average of five for bone conduction and six for air conduction, he said that such an instrument is poorly adapted for making the Weber, Rinne and Schwaback tests. The voice test is all right as a means of determining how well a patient hears conversation, but it is of comparatively little value in testing for diagnosis. It is of some value in testing the progress and course of the disease while under observation.

In reply to Dr. Casselberry, he said that his practice is to hold the fork near the ear and a little bit forward, say within one-quarter of an inch, care being exercised to avoid touching the hairs about the concha. The fork should be held so as to bring both prongs as near as possible. In this way the tone of the fork is heard at its maximum.

A Suggestion Concerning Uvulotomy.

DR. W. E. CASSELBERRY presented this topic, saying, in part: It is understood that chronic elongation of the uvula and relaxation of the soft palate are features of chronic pharyngitis, nasopharyngitis and rhinitis. It is in part secondary to these conditions and in part the conjoined effect of identical causes. The etiology includes recurrent acute attacks of rhinopharyngitis, contiguous tonsil disease, nasal stenosis, tobacco irritation and chronic pharyngitis incidental to digestive derangement and nutritional disorders such as rheumatism and gout. A complexity of causes is often operative in the same case.

The hypernutrition which affects the uvula and velum, like that of the posterior pharyngeal wall, has its origin in persistent hyperemia. Congestion leads to an exudation of leucocytes and a proliferation of the connective tissue cells of the submucosa. It excites hypersecretion and, in turn, the "hawking habit" serves, in part, to maintain congestion. Greville McDonald has called attention to the large number of glands imbedded on the posterior surface of the soft palate. In addition to the hyperplasia of the submucosa it is inferred that constant congestion of the subjacent muscular structures and their peripheral motor nerves, especially the levatores and tensores palati, leads to sluggishness of contractility and an ultimate fixation of the muscular fibers in their relaxed state. Moreover, the paresis in certain cases is attributable to pressure as from a very large adenoid growth and posterior enlargement of the inferior turbinated bodies.

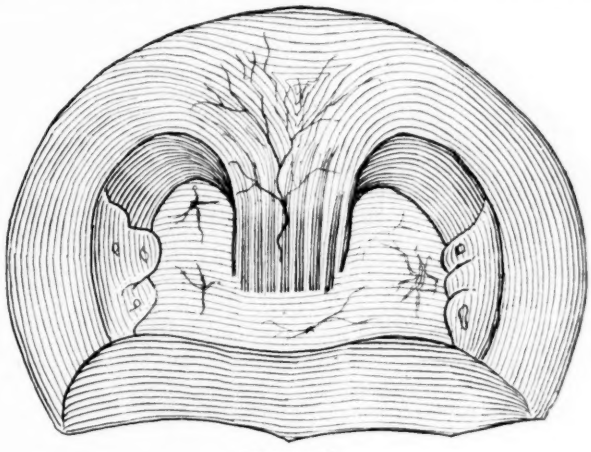

FIGURE 2.

Instead of hypernutrition the paretic palate may be actually thinner than normal, as in association with atrophic pharyngitis and in anemic emaciated states.

Regarding the uvula itself, at times the hypernutrition results only in increased length, its original diameter being approximately maintained, but in other cases, especially with chronic pharyngitis in plethoric persons, the uvula grows thick as well as long. The surplus growth near the tip may consist only of mucous membrane and connective tissue, but when much lengthened, and particularly in the thick variety, fibers of the relaxed and hypertrophied azygos uvulæ muscles are found well down in the elongated uvula, and require to be cut through in making an abscission.

Speech is plainly defective in extreme degrees of enfeebled palate resembling that of cleft-palate: *g* is substituted for *k*, as "gill" for "kill" and *d*, *b* and *s* are difficult to accentuate. The patient talks through his nose, the post-palatine space remaining too open. This defect should be distinguished from the "dead voice" of adenoid vegetations and nasal obstruction, although the two may be conjoined. Public speakers suffer from throat fatigue by reason of the unconscious extramuscular effort needed to raise the palate to a proper plane in speaking, thus conducing to chronic laryngitis. The singing voice is impaired in similar ways.

Snoring is another annoying symptom, caused by the vibration of the paretic velum while impinging on the base of the

tongue. It is more common during oral respiration, but sometimes occurs with the mouth closed.

Treatment—He considered treatment in general and pointed out that, first or last, one resorts to amputation of a part of the uvula. The old method consists simply of a square amputation by scissors or uvulotome, an effort being made to slant the cut somewhat upward and backward. The stump which is left is broad, flat and firm at the end, instead of a rounded tip of yielding consistency. The mucosa retracts, leaving a bundle of sensitive muscular fibers exposed. The healing is prolonged, the swelling considerable and the after-pain severe. The stump may remain sensitive for several weeks. In one case the patient was conscious of it for months thereafter, complaining of the impression of something in his throat worse than before. These inconveniences may be largely avoided by the following simple expedient: The first step in the operation is practically the same as by the old method, except that the uvula is grasped by the retaining forceps a trifle below the exact point of desired abscission. The forceps are locked and the uvula abscised by scissors just above the forceps. The author's uvulotomy scissors answer especially well. The mucous membrane now retracts somewhat, and the next step is to make quickly a second abscission of the protruding bundle of muscular fibers. It is caught by serrated forceps drawn still further out from the retracted mucosa, and this time the muscle alone cut through. There is left a protruding edge of mucous membrane which folds around the stump like a

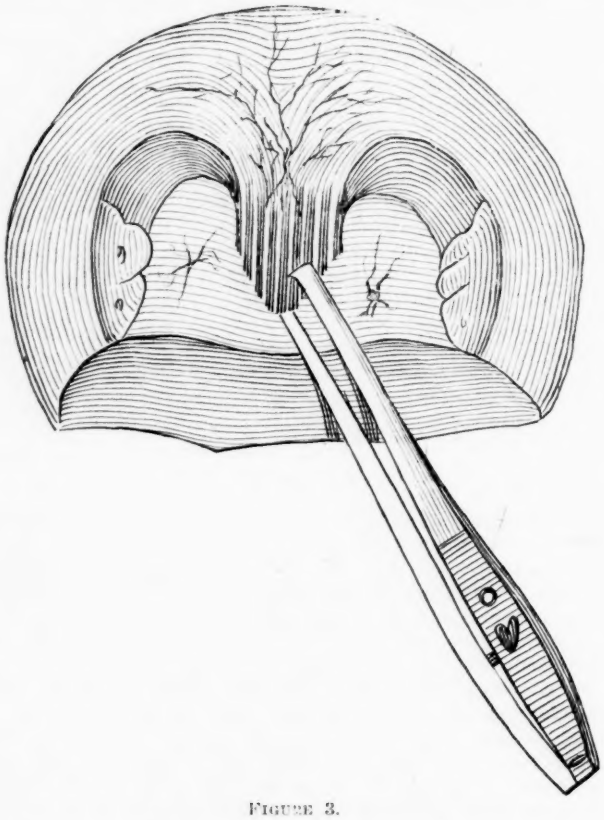

FIGURE 3.

circular flap, and in part covers its lower end. Thus cicatrization is hastened, the after-pain and swelling lessened, and the result is a more naturally rounded soft-tipped extremity. Fig. 1 represents the elongated uvula; Fig. 2, the stump after the first abscission with protruding muscular fibers; Fig. 3, grasping the muscular fibers and drawing them out from the retracting mucosa preparatory to the second abscission; Fig. 4, the circular flap folding around the stump after the second abscission.

Case of Nitrous Oxid and Ether Anesthesia for Tonsillotomy and Adenotomy.

DR. W. E. CASSELBERRY also reported a case, pointing out that the purpose of the combination is to hasten unconsciousness and thus, by lessening the quantity of ether absorbed, by from two to four ounces, to render ether anesthesia still safer, especially with regard to elimination by the kidneys. For the same reason, revival is quickened. Incidentally, time is saved, disagreeable sensations are obviated and the subsequent nausea minimized. The case reported showed only the general feasibility of adapting the gas-ether combination by the open method to the needs of the operation for conjoined adenoid growth and hypertrophy of the tonsils.

Preliminary Report on Adrenalin.

DR. W. E. CASSELBERRY also presented this report, referring first to the extract of suprarenal gland and its action, saying that a medicament of such decided and much needed powers should possess a broad usefulness, but the inconveniences of the preparations heretofore supplied have served to limit its application. The most minute care is necessary to make and maintain the aqueous extract sterile. The development in it, of organisms of putrefaction, is hindered but not prevented by various antiseptics. It is both alleged and denied that uncertainty attends its administration by the stomach, but all agree that its use hypodermically is liable to result in abscesses. Hence efforts have been made from time to time to isolate its active principles.

He described adrenalin, a derivative, evidently an active principle, whose exact nature is not given. It is a gray, stable, amorphous powder, insoluble in strong alcohol, ether, almond oil and albolene, and only sparingly soluble in water,

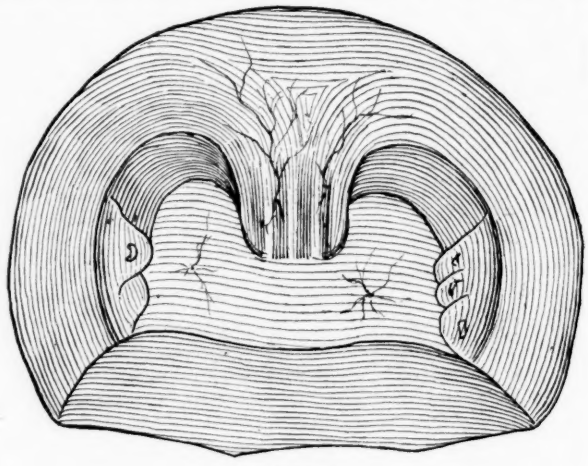

FIGURE 4.

about 1 to 5000. For practical use it is furnished in the form of adrenalin chlorid dissolved in normal salt solution 1 to 1000, 1 to 5000 and 1 to 10,000, and from this he infers that the active principle acts as a base, uniting with acids to form salts. The adrenalin chlorid is more soluble in water, but is not a stable salt in dry form. The adrenalin chlorid solution is clear, colorless, odorless, sterile, stable if protected from light, and non-irritating to mucous membranes. When exposed to light for some days, or to heat, it undergoes some change which renders the solution pinkish in color and the strength less. When applied locally it exerts identically the same vasoconstrictor influence as the aqueous adrenal extract. Sprayed into the nostrils in the strength of 1 to 10,000, it produces at once a visible change from turgidity to compactness of the turbinated tissues, and a decided pallor of the mucous surfaces. In the strength of 1 to 1000, or even 1 to 5000, it has the same power to limit hemorrhage during operations upon spurs and deviations of the septum, and in pharyngeal operations. It is equally an aid in the treatment of epistaxis. It may be substituted for cocain in all cases in which an ischemic but not anesthetic effect is desired, e. g., to facilitate inspection of the deeper recesses of the nasal cavities and to increase access by cleansing solutions. Unlike cocain, it has little or no cerebral stimulant effect, exciting no desire for more beyond the local relief afforded by it, hence he thinks it is unlikely to lead to a habit.

Like cocain, its retractile effect on vascular tissue is followed by a reaction or subsequent turgescence, which varies in time

and degree in accordance with the freedom of application, the extent of previous turgescence and other conditions. Thus, in acute rhinitis it has acted admirably in certain cases and seemed to aggravate others because of this reaction. It pales the congested mucosa in acute laryngitis and acute tracheitis, affording a corresponding temporary relief to the symptoms and hastening recovery. For this purpose he has shaken thoroughly together one-third aqueous solution of adrenalin chlorid, 1 to 1000, and two-thirds oil-vaselin, which mixture can be inhaled through the larynx in the form of spray. In like manner it should afford relief to those cases of asthma which are associated with bronchitis and vasomotor paresis, although he thinks there is little reason to expect an effect on cases of asthma in which spasm of the bronchioles is the major element. It is not chemically incompatible with the commonly used alkaline and antiseptic solutions, and it remains active in such solutions, at least for a time. The adrenalin may be rubbed up with vaselin, to form an ointment, or mixed with stearate of zinc, powdered starch or sugar-of-milk to make nasal or laryngeal insufflation powders. Its internal and hypodermic uses present fair fields for future observation.

DR. EDWIN PYNCHON described his method of procedure in uvulotomy, as follows: Assuming that the uvula should be three-eighths of an inch long, he examines it and finds that it is three-quarters of an inch long. He then takes hold of its tip, with a suitable forceps, and stretches it until it is double that length, when, by using a curved shears such as is used by gynecologists for vesicovaginal fistula operations, and with the concave surface of the shears upward, he makes a curved cut, beginning in the middle and cutting backward and upward so the cut is finished up near the base of the uvula. Having done this he finds the muscular tissue shrinks more than does the mucous membrane, and the wind-up is that the muscular tissue or traumatic surface is entirely at the rear of the mucous membrane which covers and protects the stump of the uvula, so the annoyance incident to swallowing is thereby diminished. Eventually it heals at the size he desires it to be.

DR. MOREAU R. BROWN said that it has been his custom to remove the uvula in a similar manner to that described by the essayist, and the operaton has satisfied both himself and the patients. In removing the uvula it is his aim to make the incision so that the cut surfaces will be to the back part of the stump. This is done with any ordinary curved-on-the-flat scissors. In some cases where the mucosa is lax it can be caught by the forceps and slipped up over the underlying muscular tissue. When both mucosa and muscular tissue can be divided, the mucosa will hang down and completely cover the muscular tissue. Occasionally he has reversed the procedure by catching the mucosa high up on the uvula and drawing it upward, then cutting through the tissues below the forceps.

Regarding adrenalin, he has been using it with considerable satisfaction. The preparations of adrenal gland have passed beyond the experimental stage and we know their value and efficacy and have for some time been anxious for the introduction of some such preparation as adrenalin.

DR. E. FLETCHER INGALS thought removal of the uvula by the method recommended by the essayist would be satisfactory, but the double cut seems unnecessary. He could not recall more than one case in the last twenty-five years where he would have gained anything by making a double cut. In that case the uvula was about as thick as one's little finger, and the patient had a very sore stump for several days. The best method, in his experience, is to remove the uvula with the ordinary polypus snare. The uvula is caught exactly at the point where we want to cut it, and with a single closing of the fingers it is removed. If thought desirable to cut the muscular tissue, higher up, this could be done in cases where the mucous membrane is loose, by simply catching the uvula lightly with the wire first, then lifting up the mucous membrane an eighth of an inch and then closing the wire loop.

In most cases we will note that when we have cut it off, the raw end of the stump is not more than half the diameter of the whole uvula. He has never seen any inconvenience from operating in this way, except possibly in the one case to which he referred. The hemorrhage from this method of operating is much less than when scissors are employed, and the tissues may be cut with much more accuracy than when they have been drawn down by forceps.

DR. G. P. HEAD said he had found, in operating on the uvula, that unless he wished to do as Dr. Pynchon recommended, that is, put the uvula on such a stretch as to amputate a large portion of the mucous membrane, with the ordinary curved scissors it was difficult to engage it in the first snip. In looking around for an instrument that was not a uvulotome, he found a useful one in Hanks's trachelorrhaphy scissors, which is notched at the end, and curved a little on the edge as well as on the flap. With it he gets the advantage spoken of by Dr. Ingals in the use of the snare, in that when he engages the uvula he does not pull it down to any extent, but simply holds it lightly with forceps, the notch at the extremities of the blades holding the uvula firmly while he makes the snip. In this way we can get what portion we want without putting the mucous membrane on a stretch. These scissors are unexcelled as an instrument for removing tonsils which are too small for the tonsillotome.

DR. J. HOMER COULTER asked whether the only object in giving the ether is to obtain additional time?

DR. CASSELBERRY, closing the discussion, said "yes, nitrous oxid is supplemented by ether to gain additional time for operating." In elucidating his method of uvulotomy, he said that his instrument is a pair of long-handled, slightly curved scissors, which he had made for the purpose. One blade has a cross-bar at the end. This curve facilitates the upward and backward slant, and the cross-bar keeps the uvula from slipping out. He has not had serious hemorrhage following uvulotomy, but in one or two cases a slight application of the cautery point seemed best to stop the bleeding without annoying delay. Should an active hemorrhage occur inside the flap of mucous membrane, it might be difficult to control it by mere cauterization, and this might be some objection to the method. Persistent bleeding, however, from uvulotomy, by his method is exceedingly rare, and if it should occur it could be controlled by compression, or one could snip off some of the mucous membane that had been folded around the stump. With reference to a second cut, he has not found it objectionable, if made very quickly after the first one; the patient does not appreciate that it is more than a continuation of the one cut, but after having made the first one, he often takes a moment to apply cocain afresh to the raw surface, and then makes the second. In regard to snaring the thick type of uvula, to get the snare on the uvula in exactly the right place, especially with patients disposed to gag easily, would require a high degree of expertness.

With respect to the reaction following the use of adrenalin and the alleged greater liability to hemorrhage than would otherwise result from operations done without its influence, in nasal operations for the removal of excrescences, correction of deviations of the septum, etc., it is his custom to pack antiseptically, immediately after the operation, hence it does not matter whether there is greater liability to bleed or not. In pharyngeal operations he has not used adrenalin nor aqueous extract of adrenal gland, on account of the tendency to greater hemorrhage after its use. As a rule, we can get along just as well without it in pharyngeal operations.

DR. EDWIN PYNCHON called the attention of the Society to the use of a strong solution of nitrate of silver—25 per cent.—to prevent hemorrhage after uvulotomy. It has been his custom to apply it in this strength, and he has always found it very satisfactory.

Notes on Adrenalin and Adrenalin Chlorid.

DR. E. FLETCHER INGALS read a paper on this subject. It will be printed in THE JOURNAL.

Officers.

The following officers were elected for the present year: President, Dr. Wm. E. Casselberry; secretary and treasurer, Dr. John Edwin Rhodes; council, Drs. T. Melville Hardie, Dr. J. Holinger, and O. J. Stein.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Gonorrhea.

The varieties of urethritis may be classified as follows: Acute and chronic. 1. Simple: *a*, toxic; *b*, traumatic. 2. Specific, due to the gonococcus. Attention will be called to the treatment of the specific form only. It consists of both local and internal medication. Lydston advises, as abortive treatment, removal, as far as possible, of the virulent germs which have been deposited on the surface of the mucous membrane; a prolonged and thorough irrigation of the anterior urethra with a solution of potassium permanganate, 1 to 10,000 to 1 to 5000. During this treatment he advises internal medication by the administration of alkalies. As to the general management of the disease, he emphasizes the importance of rest—physical and sexual—in bed. Next in importance to rest is attention to the diet, in order to limit the elimination of irritative products by the urine. A vegetable diet or a bread and milk diet is preferable, avoiding asparagus and tomatoes.

LOCAL TREATMENT.

A solution of hydrargyri bichloridum, 1 to 30,000 to 1 to 15,000, in combination with a small amount of glycerin, is recommended.

AS AN ANODYNE INJECTION.

R.	Atropinæ sulphatis	gr. i	06
	Bismuthi subnit	ʒiii 12	
	Mucil. acaciæ		
	Aq. destil., āā	ʒii 64	

M. Sig.: Shake well and inject three times daily; or

R.	Tinct. opii deod	ʒiss 6	
	Bismuthi subnit	ʒiii 12	
	Mucil. acaciæ		
	Aq. destil., āā	ʒii 64	

M. Sig.: Shake well and inject three times daily.

AS AN ASTRINGENT INJECTION.

R.	Zinci Sulphatis	gr. x	66
	Morph. sulph	gr. viii	50
	Glycerini	ʒi 4	
	Aquæ rosæ	ʒiii 96	

M. Sig.: As an injection; or

R.	Zinci sulpho-carbol	gr. xii	72
	Glycerini	ʒi 4	
	Aquæ rosæ	ʒiii 96	

M. Sig.: As an injection.

A VEGETABLE ASTRINGENT.

R.	Hydrastis muriatis	gr. viii	5
	Ext. hamamelidis flu	ʒi 4	
	Glycerini	ʒi 32	
	Aq. destil q. s. ad	ʒiv 128	

M. Sig.: As an injection.

The following may be of service as an astringent:

R.	Bismuthi subgallati	ʒiss 6	
	Zinci sulphatis	gr. xv 1	
	Aquæ calcis	ʒvi 192	

M. Sig.: Use as an injection three times a day, after urinating.

The following is the general outline of treatment used by Dr. Henry J. Scherck, as given in the *Ther. Gazette:* The urethra is first carefully washed with lukewarm water, followed by an injection of the following:

R.	Protargol	gr. xx 1	33
	Aq. destil. q. s. ad	ʒiv 128	

M. Sig.: As an injection twice or three times a day.

The solution, whatever it may be, should be introduced gently into the canal with a three-ounce, hard-rubber syringe. The solution should be allowed to remain for five minutes, the patient closing the meatus by pressure of the finger. Instead of protargol, Dr. Scherck sometimes employs mercurol in 2 per cent. solution, or Credé's silver in 1 per cent. solution. After the solution has been allowed to escape, a two-gallon irrigator filled with a 1 to 1000 solution of potassium permanganate, at a temperature of 120 F., is irrigated into the canal, the irrigation being raised to a sufficient height to cause the pressure to distend the canal without overcoming the sphincter muscle. The entire amount of the permanganate solution is used in this way. The strength of this solution should be increased from day to day until about 1 in 500 is attained.

As to internal medication, the main object is: 1, to keep the urine from causing irritation, and this may be accomplished by alkaline treatment; 2, to render the urine aseptic and germicidal, by the use of the following combination:

R.	Cystogen	gr. v	33
	Ol. santoli	m. x	

M. Ft. cap. No. i. Sig.: One such capsule every four hours.

Cystogen is said to be of similar composition to urotropin, which is a compound produced by the action of formaldehyde on ammonia.

Careful attention to diet is necessary, with care to avoid such articles as would tend to congest the genito-urinary tract or increase the acidity of the urine, or in any way increase the irritation to the mucous membranes. He advises, in the main, the same line of treatment in chronic as in the acute cases.

SILVER SALTS IN ACUTE GONORRHEA.

Youmans *(Med. Standard)* states that the urethra should be irrigated twice daily with a 1 to 4000 solution of potassium permanganate. If streptococci are present in the discharge, a 1 to 20,000 bichlorid solution should be added to this. The temperature of the solution used for injection should be 110 F., gradually increased to 120. If the disease is in the posterior urethra the fluid is allowed to flow into the bladder by hydrostatic pressure, after washing out the anterior portion of the urethra. After each irrigation, the following injections are used:

R.	Argonin	ʒii 8	
	Aq. destil. q. s. ad	ʒiv 128	

M. Sig.: As an injection; or

R.	Protargol	gr. xl 2	6
	Aq. destil. q. s. ad	ʒiv 128	

M. Sig.: Use as an injection after each irrigation, and retain ten minutes.

W. W. Wilson *(Buffalo Med. Jour.)* states that argonin is by far the best. He uses it as follows:

R.	Argonin	gr. xl 2	66
	Aq. destil. q. s. ad	ʒiv 128	

M. Sig.: Use as an injection four times a day. The solution should be retained ten minutes each time.

Argonin is a compound of silver—4 per cent. It has the disadvantage of not being soluble in cold water. It should be kept in dark bottles, as it is easily decomposed by light.

ARGENTAMIN IN GONORRHEA.

This preparation has been employed with good success in gonorrhea. It is a solution of silver phosphate in aqueous solution of ethylendiamin. It is an antiseptic which does not precipitate albumin, is alkaline in reaction, and can be used in the strength of 1 to 3000. For conjunctival application it can be used in 5 per cent. strength.

IN HIGH-GRADE INFLAMMATIONS.

The following is sometimes recommended to subdue the inflammation:

R.	Morphinæ sulphatis	gr. ii	12
	Liquoris plumbi subacetat. q. s. ad	ʒvi 192	

M. Sig.: Inject four or five times daily. A warm solution is better.

Duguaire *(Sem. Méd.)* very highly recommends the following as an injection:

R.	Ol. gaultheriæ	gr. xv 1	
	Bismuthi subnit	ʒv 20	
	Petrolati (liquid)	ʒiii 96	

M. Sig.: Use as an injection three times daily, with a syringe, the nozzle of which has a soft and extra wide canula.

POTASSIUM PERMANGANATE AS AN INJECTION.

R.	Potassii permanganatis	gr. 1/4 to 1/2	015-03
	Sodii chloridi	gr. xv 1	
	Aq. destil.	ʒvi 192	

M. Sig.: Inject four or five times daily.

In some cases where there is chronic inflammation of the bulbous urethra, Lydston advises the following, introduced through the endoscopic tube:

℞.	Iodoformi	ʒiv	16
	Tinct. benzoin comp.		
	Balsami peruvianæ, āā	ʒi	32

M. Sig.: Apply through the endoscopic tube.

METHYLENE BLUE IN GONORRHEA.

Dr. J. A. Oneill *(Med Record)* states that he can quickly effect a cure by the administration of methylene blue as follows:

℞.	Methylene blue	gr. i	06
	Olei myristicæ	m. i	06
	Olei santoli	m. ii	12

M. Ft. capsula No. i. Sig.: One such capsule four times a day.

By giving four grains of methylene blue daily, he states, there is always enough of it in the urine to kill all the germs with which it comes in contact. It should not be used continuously longer than ten days at a time.

ICHTHYOL IN THE GONORRHEA OF WOMEN.

Dr. J. G. Clark *(Am. Jour. of the Med. Sci.)* maintains that absolute rest in the acute stages is of the greatest importance. As to treatment, he regards ichthyol as the most valuable preparation, because it is non-irritating and is very effective in alleviating pain and reducing the inflammation, and its use is not followed by the disagreeable results sometimes noted after the use of more irritant remedies. He uses it in solutions of 1 to 5 per cent. strength, injected into the urethra.

Complications of Gonorrhea.

EPIDIDYMITIS AND ORCHITIS.

Rest in bed is the important treatment when there is acute inflammation of the testis. Stimulation to the urethra by means of injections should be stopped. Local applications of poultices of linseed or tobacco are strongly recommended by many specialists. The administration of saline cathartics and alkaline diuretics is necessary. The use of opiates to control the pain is sometimes imperative. Where it is inconvenient to apply poultices, Lydston recommends the following:

℞.	Menthol	gr. xl	2 66
	Ext. belladonnæ	gr. xx	1 33
	Ext. aconiti	gr. x	66
	Lanolini q. s. ad	ʒii	64

M. Sig.: Spread on lint and continuously apply to the testicle; or

℞	Methyl salicylatis	3iii	12
	Ext. belladonnæ	ʒi	4
	Adifis	ʒi	32

M. Sig.: Apply locally to the testicle.

GONORRHEAL OPHTHALMIA.

It is not unusual for the general practitioner to make a mistake in his diagnosis of gonorrheal ophthalmia. He may attribute the purulent discharge to other causes than gonorrheal infection; on the other hand he is very liable to mistake a mucus for purulent discharge, and thus, by use of the silver salts, create a diseased condition in an otherwise healthy organ. Especially may this be the case following the use of silver nitrate solutions. In true gonorrheal infection of the eye the following seems to be the favorite of most oculists, because it is non-irritating:

℞.	Protargol	gr. xx-xxv	1 33-1.66
	Aq. destil. q. s. ad	ʒi	32

M. Sig.: Drop into the eye twice daily.

Protargol is a proteid compound containing 8.3 per cent. silver. It is freely soluble in cold water and is stable.

GONORRHEAL ARTHRITIS.

Dr. C. A. Porter *(Boston Med. and Surg. Jour.)* says that drug treatment does not yield the proper results. He has obtained his best results from the continuous use of ice-bags, or dry heat, preferably at a temperature of 250 to 400 F. The actual cautery is the best counterirritant and frequently relieves the pain. After two or three weeks, when the acute process has subsided, resort to massage and movement of the joint should be had.

Medicolegal.

Issuance of but One Temporary Certificate Authorized.—A statutory provision that one member of a board of medical examiners may give a temporary certificate entitling the holder to practice medicine until the next meeting of the board, the Supreme Court of Texas holds, in the case of Peterson vs. Seagraves, will confer on an individual member of the board authority to issue but one temporary certificate to a person. An express prohibition of the issuance of more than one temporary certificate or license to the same person it deems unnecessary. Nor does it consider that the fact that the laws regulating the practice of dentistry and pharmacy in the state may contain provisions expressly forbidding the issuance of more than one temporary certificate can be taken to determine the construction of a practice act existing before those laws were passed.

Change of Residence Requires New County License.—The Appellate Court of Indiana says, in the case of Mayfield vs. Nale, that the statute of that state is plain that, if a physician changes his residence from one county to another, he must obtain a new license in the county where he proposes to reside. This is a condition precedent to his right to practice in that county, and it is made unlawful for him to practice in such county without such license. In consequence, he can not maintain an action for medical services rendered in a county, after moving thereto, without first having procured the requisite license. That he may subsequently comply with the law will not enable him to recover for services rendered in such county prior to obtaining a license therein. Whether the law that makes possible such a defense where competent professional services have actually been rendered is a wise one, it is held, is not for the courts to say.

Conversations in Presence of Third Parties.—The Appellate Court of Indiana holds, in the case of the Masons' Union Life Insurance Association vs. Brockman, that as to what a witness who made his headquarters at a physician's office for a couple of weeks heard the physician and a patient say was not privileged, as to such witness, but he could testify thereto. For example, if the patient was being treated for the drink habit, and the witness knew it, either from his own knowledge or from what he heard the patient and his physician say when they were in each other's presence, it was competent for him to so testify. As to what weight the evidence might have with the jury was not a question with the court. It is the rule, the court adds, that, if statements are made in the presence and hearing of a person affecting his rights, and under such circumstances as call for a reply, what he said, or if he failed to say anything, may be proven as in the nature of an admission.

Physician May Testify as to Wounds on Shaved Head.—In the homicide case of the State of Missouri vs. Tettaton, where the evidence of the physicians disclosed the fact that it would have been impossible for the defendant to have been cut in the head as he was by any other person than himself, it was insisted that the court should not have permitted witnesses to testify with respect to the condition of the wounds on his head, as they existed after his head was shaved. The contention was that the act was involuntary, and was compelling the defendant to give evidence against himself. But this contention, the Supreme Court of Missouri, Division No. 2, says was not borne out by the record, which showed that it was not only voluntary on the part of the defendant, but that it was necessary in order to enable the physicians to treat the wounds. Yet, even if the shaving of his head had been against his will and consent, there can be no question, it holds, but that physicians could have examined his head, and then testified to the condition of the wounds, their character, and whether or not done with a sharp or blunt instrument.

Proper Evidence of Injury of Private Parts.—The Supreme Court of Wisconsin says, in the personal injury case of Guhl vs. Whitcomb, that it can not pass silently the reception in evidence of photographs showing rear views of the plaintiff's person, nude from below the shoulders to mid-thigh. Such photographic exposure of the body of a 20-year-old girl in a court room full of men is even more grossly improper and

shocking, it goes on to say, than the conduct disclosed in Brown vs. Swineford, of which this court thus expressed its condemnation in the scathing words of Chief Justice Ryan: "No such indecency is ever necessary, or should be tolerated, in court. If the condition of any private part of the body of any party, male or female, is material on any trial, it should be privately examined by experts out of court, and expert testimony be given of it. Such an exposure as was made in this case, if made without leave of the court, might well be punished as a contempt. Made with the sanction of the court, it is none the less improper and indecent, well calculated to disgrace the administration of justice, and to bring it into ridicule, if not into contempt. It is hoped that this court may never have another occasion for such censure." To those words, the court now declares, it can not and need not add, save to reiterate the sentiments they express, and to invoke for them the careful attention of those, whether of court or bar, who may be tempted to repeat such defilement in a court of justice.

Opinion of Physician Called After Making of Will.—A physician visited, at about noon, or after it, a man who, there was evidence tending to show, had had a slight stroke of paralysis the night before, and had made a will between 10 and 11 o'clock in the forenoon. He did not get an intelligent word out of the man, although he considered that he had partial intelligence. Under these circumstances, and the physician having got the impression from the inquiries he made that the man had been in the same condition from early morning, the Supreme Court of Michigan holds, Lange vs. Wiegand, that it was clearly competent for the doctor to express an opinion as to the mental capacity of the man at the time he saw him. It adds that it did not conclusively appear that the condition of the man had changed so materially after the time of making the will that the opinion of the doctor as to his mental capacity at the time of his visit was wholly without force. On the other hand, it holds that it was error to charge the jury in this case that if the statements made by three witnesses named were true, they showed a mental capacity in the man to make a will, over against which "you put the statements of what the doctors say, and what they say about his not having awakened sufficiently to speak, and so forth." It says, in explanation of its holding that this was error that the doctor did not see the man until the afternoon. The will was made between 10 and 11 o'clock in the morning of the same day. He was failing rapidly from a stroke of paralysis. His condition, according to the testimony of several witnesses for the proponent of the will, was not alarming while the will was being signed. He lay propped up in bed, and, though his right arm and hand were considerably affected, they testified he could talk, and that he bore no evidences at that time of mental aberration. In the afternoon, however, his condition very much changed. Under these circumstances, what his condition was at that time, the court holds, could not be weighed against the testimony of wtinesses, who stood unimpeached, as to the condition when the will was made.

On Criminal Abortion and Dying Declarations.—The Court of Appeals of Maryland says, in Worthington vs. State, that, whatever may have been the severity of the earlier common law, the proposition is too broadly stated that death resulting from criminal abortion has always been murder at common law. The crime of abortion is a misdemeanor, only, at common law; and the Maryland statute, while broadening the scope of the common law, and increasing the punishment, still leaves the crime a misdemeanor. Thus, it has been said that "causing the mother's death in attempting an abortion is only manslaughter at common law, if the attempt is not made in a way that endangers the mother's life. In the latter case it is murder." It is only in jurisdictions where abortion is raised by statute to the grade of felony that causing the death of the mother is necessarily murder. It is common knowledge, the court goes on to say, that death is not now the usual, nor, indeed, the always probable, consequence of an abortion. The death of the mother, doubtless, more frequently resulted in the days of rude surgery, when the character and properties of powerful drugs were but little known, and the control over their application more limited. But, in these days of advanced surgery and marvelous medical science and skill, operations are performed and powerful drugs administered by skillful and careful men without danger to the life of the patient. Indeed, it is this comparative immunity from danger to the woman which has doubtless led to the great increase of the crime, to the establishment of a class of educated professional abortionists, and to the enactment of the severe statutes almost everywhere found to prevent and punish this offense. The woman takes her life in her hands when she submits to an abortion, be she wife or maid, but her death is no necessary element in the procuring of an abortion; and the application of the harsh rule that the death of a woman, resulting from a criminal abortion upon her, is murder would have no effect in the repression of that abhorrent crime, which can only be efficiently dealt with by severity in the enactment and administration of the law punishing the attempt upon the life of the unborn child. The corpus delicti of the offense of abortion is the destruction of the unborn infant. The crime is complete, with the death of the woman or without it. Her death is not a constituent element of the offense. But in this case the indictment was not for abortion. It was an indictment which charged manslaughter, and the facts of the abortion were simply alleged there as going to show what caused the death, just as if it had been alleged that the means of death were by shooting the woman with a pistol. Under such an indictment, dying declarations, the court holds, are receivable, although in a prosecution for abortion it would seem they would not be where the death of the woman is no part of the facts which go to constitute the crime. It is certain, it says, that dying declarations can only be received where the death of the deceased is the subject of the charge, and the circumstances of the death the subject of the declaration. It is essential that actual danger of death must exist, that there is full belief that it is actually impending, and that death ensues. Any expressed or clearly visible hope of recovery will render the declaration inadmissible. But the declarant's own belief at the time is the criterion of admissibility. It is not material that others, even the physician, thought differently and had hopes of recovery.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, March 16.

1 Strangulated and Gangrenous Hernia. Kelotomy and Laparotomy in Strangulation, External and Internal; Artificial Anus-Enterostomy, Primary or Secondary Resection—Enterectomy, and End-to-End or Lateral Jointing in Gangrenous Hernia. (To be continued.) Thomas H. Manley.
2 *Percentage and Laboratory Feeding. J. P. Crozer-Griffith.
3 *A Contribution to the Technic of the Widal Test. A. Robin.
4 Rupture of the Rectum and Hernia of the Intestines in an Insane Man. A. R. Moulton.
5 Removal of the Right Upper Cervical Sympathetic Ganglion for the Relief of Glaucoma Simplex. D. H. Coover.
6 A Synoptical Report of 1141 Cases of Indigent Visitors Treated at Hot Springs, Ark. Howard P. Collings.

Medical News (N. Y.), March 16.

7 *Recent Experiences with Erythromelalgia. Henry L. Elsner.
8 The Treatment of the Heart in Typhoid Fever and Other Infectious Diseases. Albert Abrams.
9 *A Report of Three Cases of Thoracic Aneurysm Treated by Subcutaneous Injections of Gelatin. Lewis A. Conner.
10 *Observations upon Amoebae Coli and Their Staining Reactions. Charles F. Craig.
11 *A Preliminary Note on the Relation of the Form of Tubercle Bacillus to the Clinical Aspects of Pulmonary Tuberculosis. Henry Sewall.
12 Rhinoscleroma. H. Jarecky.
13 Subglottic Growths; Report of Cases with Exhibition of Improved Instruments. Robert C. Myles.

New York Medical Journal, March 16.

14 Congenital Dislocation of the Shoulder, with Report of Two Cases of Dislocation Posteriorly. Daniel W. Marston.
15 *The Representation of Biliary Calculi by the Roentgen Rays. Carl Beck.
16 Substitute Feeding of Infants upon Milk Modified According to Prescription in Laboratories. W. P. Northrup.
17 *The Specific Treatment of Acute Dysentery. (Concluded.) William J. Cruikshank.

18 The Pathology of Intra-uterine Death. (Concluded.) Neil MacPhatter.
19 Angeioma Cysticum of the Nose. Henry L. Wagner.
20 A Simple Apparatus for Modifying Cow's Milk. Charles Herrman.

Medical Record (N. Y.), March 16.

21 *The Treatment of Gonorrhea with Frequent Irrigations of Hot Deci-normal Salt Solution. Charles E. Woodruff.
22 A Whistle in the Esophagus. A. E. Isaacs.
23 *The Treatment of Colitis by Valvular Colostomy and Irrigation. P. R. Bolton.
24 The Ovary: Its Relation to Normal Functions and to Pathological States. Samuel W. Bandler.
25 The Use of Suprarenal Capsule in Hemoptysis. Wm. B. Kenworthey.

Boston Medical and Surgical Journal, March 14.

26 The Story of the Boston Society for Medical Improvement. J. G. Mumford.
27 Notes from the Neurological Department of the Massachusetts General Hospital. Sudden (Apoplectiform) Bulbar Paralysis; Hemiplegia: Astereognosis. W. E. Paul.
28 *Intestinal Anastomosis. Charles G. Cumston.
29 A Case of Cesarean Section. Herbert J. Keenan.

Cincinnati Lancet-Clinic, March 16.

30 The Medical Man's Position in Education. Bros. S. Horner.
31 Rev. John Wesley as a Physician. H. V. Sweringen.

Atlanta Journal-Record of Medicine, March.

32 The Relation of the Profession to the General Public. R. R. Kime.
33 Management of Labor with Reference to Some Complications. W. Monroe Smith.
34 Treatment of Catarrhal Deafness by Electrolysis of the Eustachian Tube. Dunbar Roy.

Northwestern Lancet (Minneapolis, Minn.), March 1.

35 Lobar Pneumonia—Croupous Pneumonia—Pneumococcus Infection (Musser). Christopher Graham.
36 Primary Laryngeal Tuberculosis. W. N. Porteous.
37 Ideas of Disease and Medicine Among the Chinese. I. M. J. Hotvedt.

Annals of Surgery (Philadelphia), March.

38 *On Non-Obstructive, Post-Operative Anuria. F. Tilden Brown.
39 *Diagnosis of Stone in the Kidney by the X-ray, and its Treatment. Arthur D. Bevan.
40 *Hernia of the Fallopian Tube Without Hernia of the Ovary. Paul F. Morf.
41 Contributions to the Surgery of Malignant Disease of the Prostate Gland and of the Tonsils. Nathan Jacobson.
42 *Resection of the Pendulous, Fat Abdominal Wall in Cases of Extreme Obesity. Lindsay Peters.
43 *Eversion of the Tunica Vaginalis as a Remedy for Hydrocele. Dudley Tait.
44 Report of a Case of Recovery after Abdominal Section for Multiple Gunshot Wounds of the Abdomen. Frank Martin.
45 Periosteal Osteosarcoma of Upper Extremity of Femur; Ligation of Common Iliac Artery, with Amputation at Hip-Joint and Removal of Portion of Pelvis, Etc.; Recovery, with Freedom from Recurrence at End of Nearly Sixteen Months. Leonard Freeman.

Clinical Review (Chicago), February.

46 Divulsion, Counter-Pressure and Diversion in the Treatment of Certain Forms of Dysmenorrhea. O. B. Will.
47 Clinical Lecture on the Treatment of Septic Infections of the Extremities. A. J. Ochsner.
48 Causation and Treatment of Constipation in Children. John H. Byrne.
49 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

American Journal of Insanity (Baltimore, Md.), January.

50 *Hallucinations: Their Origin, Varieties, Occurrence and Differentiation. W. Alfred McCorn.
51 Clinical Cases. VII. The Pathology of Chronic Alcoholism. Henry J. Berkley.
52 Results of Five Years' Experience with Co-operation between State Hospitals for the Insane: May it be Profitably Extended to Other Charitable Institutions? Peter M. Wise.
53 Kraepelin's Clinical Picture of Katatonia. Translated by A. E. Brownrigg.
54 John S. Butler: The Man and His Hospital Methods. Charles W. Page.
55 *On the Importance of Pathological and Bacteriological Laboratories in Connection with Hospitals for the Insane. Lewellys F. Barker.
56 *A Contribution to the Pathology of the So-called Functional Neuroses. Theo. Klingmann.

Dominion Medical Monthly (Toronto), February.

57 Autointoxication and Excretion in Relation to Disease. H. B. Anderson.
58 Cases in Diseases of the Skin. Graham Chambers.
59 Report of a Case of Simple Fracture of the Ulna Where Incision Was Necessary for Reduction of Deformity. A. Primrose.

American Gynecological and Obstetrical Journal (N. Y.), February.

60 *Can Interstitial Keratitis be Prevented in the Offspring of Syphilitics. Peter A. Callan.
61 Two Interesting Cases. (Perineal Sinuses and Pelvic Abscess.) Charles P. Noble.
62 A Case of Pseudo-ileus, Following Instrumental Delivery and Adherent Placenta. Joseph M. Rector.
63 The Relation of Appendicitis to Diseases of the Uterine Appendages. Albert L. Beahan.
64 Cholemia and Hemorrhage. D. Todd Gilliam.
65 Seventeen Cases of Congenital Nocturnal Incontinence of Urine Cured by Operation. George H. Noble.
66 The Cure of Complete Prolapsus Uteri by Plastic Surgery. John D. Emmet.

Medical Review of Reviews (N. Y.), February 25.

67 On the Early Recognition of Typhoid Fever. James K. Crook.

Ophthalmic Record (Chicago), February.

68 A Most Simple and Efficient Eye Dressing and a Bandage that Will Stay. M. F. Weymann.
69 Extraction of Iron from Interior of the Eye by the Haab Electromagnet. N. J. Weill.
70 A New Skiascopic Mirror. William E. Baxter.
71 Case of Hemorrhage from the Conjunctiva in an Infant. Howard F. Hansell.
72 *Report of a Different Operative Method in the Treatment of Trachoma, with Notes upon the Construction of an Instrument Devised for the Purpose. P. Chalmers Jameson.
73 Ophthalmic Notes. Melville Black.
74 "Ossified or Calcareous Eye with Specimen." Thomas McDavitt.
75 Listing's Plane—A Reply to Dr. Harold Wilson's Criticism. G. C. Savage.
76 *A Word Concerning the Etiologic Relationship of Epidemic Influenza to Chronic Glaucoma. G. E. de Schweinitz.
77 *Blindness and Death from Drinking Essence of Jamaica Ginger, Peppermint, etc., Due to Methyl Alcohol. Herbert Harlan.

University Medical Magazine (Philadelphia), February.

78 Dysentery (in the Tropics): its Symptomatology, Complications and Treatment. B. L. Wright.
79 *The Association of Chronic Jaundice with Gastroptosis. Report of a Case. J. Dutton Steele.
80 A Clinical and Histologic Study of a Case of Melanosarcoma of the Choroid. Charles A. Oliver.
81 *A Note on the Disinfectant and Deodorant Action of Ammonium Persulphate. Mazyck P. Ravenel and Samuel H. Gilliland.

New York State Journal of Medicine (N. Y.), March.

82 Removal of Pin Embedded in the Tissues Twelve Years. Charles T. Bell.
83 *The Etiology and General Prophylaxis of Tuberculosis. Victor C. Vaughan.
84 Some Unusual Cases of Infectious Disease. Delancey Rochester.
85 The Long Period of Incubation in Animals Affected by Rabies. G. W. Goler.
86 *Treatment of the Patient During the Weeks Previous to Expected Confinement. Edward P. Davis.
87 Biographical Sketch of Dr. John P. Sharer. Chas. H. Glidden.

St. Paul Medical Journal, March.

88 *Cases of Gall-Bladder Surgery. John C. Munro.
89 Is There a Decadence of Our Ethical Standard? J. G. Mumford.
90 *A Consideration of the Different Operative Procedures in the Treatment of Retro-Displacements of the Uterus. O. Beverly Campbell.
91 *Operative Measures for the Radical Cure of Inguinal Hernia. Gustav A. Renz.
92 Preparation and After-care of Surgical Cases. John T. Rogers.
93 Heat in Surgery. C. H. Mayo.
94 Recurrent Acute Catarrhal Otitis. B. M. Behrens.
95 Synchronous Dislocation of the Humeri (sub-glenoid). Howard Lankester.

Colorado Medical Journal (Denver), February.

96 The Domain of Preventive Medicine. Charles W. Hertzman.
97 Some Observations on Medical Legislation. William Duffield.
98 Reminiscences of a Pioneer. O. B. Whitford.

The Laryngoscope (St. Louis, Mo.), February.

99 *The Pneumatic Sinuses in the Sphenoidal Wings. Beaman Douglass.
100 *The Use of the Tuning Fork as a Test for Disease of the Maxillary Antrum. D. A. Kuyk.
101 Extradural Abscess following Acute Suppurative Tympano-Mastoiditis with Report of Two Cases. James Francis McCaw.
102 Necrosis of Turbinated Bones and Adjacent Structures. J. W. Bird.
103 Some Notes on Routine Office Work. E. C. Ellett.

Toledo Medical and Surgical Reporter, March.

104 *Melanosarcoma of the Choroid with Report of Three Cases. Francis W. Alter.
105 Actinomycosis, with Report of a Case. E. B. Barlow.
106 Treatment of Acute Articular Rheumatism. J. W. P. Smithwick.

Mississippi Medical Record (Vicksburg), March.

107 A Résumé of Recent Advancements in Rectal Surgery. John L. Jelks.
108 Laryngo-Tracheotomy for Foreign Body. W. H. Barr.
109 A Case of Fracture of the Neck of the Femur. John Brownrigg.
110 Clinical Lecture. (Exploratory Laparotomy.) W. W. Keen.

American Journal of Surgery and Gynecology (St. Louis, Mo.), February.

111 Diabetic Gangrene—Amputation—Recovery. L. Brannon.
112 Preventive Operation in Acute Inflammation of the Appendix. Mansell Moullin.
113 Clinical Cases in Surgery Illustrated by Radiographs and Photographs of a Compound Pott's Fracture Complicated with Osteomyelitis and Necrosis; A Compound Fracture of Clavicle and Tubercular Cervical Glands; Mammary Adenoma and Appendectomy. Harlan Trask.
114 Tuberculosis of the Spine and its Treatment. A. M. Phelps.
115 Division of Fees. Robert T. Morris.
116 A Peculiar Accident from the Use of Rubber Gloves. Emory Lanphear.

Kansas City Medical Index-Lancet, March.

117 *Climatic Conditions in Western Texas, and Their Influence upon Pulmonary Diseases. Junius A. Rawlings.
118 Three Cases of Typhoid Fever Complicated with Malarial Fever. N. A. Drake.
119 Meningitis. John Punton.
120 The Diagnosis of Pott's Disease. D. H. Gibney.
121 A Case of Chronic Rheumatism. L. B. Smith.

Medical Standard (Chicago), March.

122 Appendicitis and its Treatment. A. J. Ochsner.
123 The Constitutional Treatment of Syphilis. W. S. Gottheil.
124 Management of the Victims of Drug Habits. David Paulson.
125 How to Teach Anatomy. J. F. Burkholder.
126 Acute Respiratory Diseases. Wm. F. Waugh.
127 Some Surgical Cases (Lipoma, Keloid, etc.). N. Senn.
128 Typhoid Fever; Its Complications and Sequelæ. J. T. Moore.
129 Neurasthenia Treated by Electricity. Francis B. Bishop.

Medical Council (Philadelphia), March.

130 Disorders of the Sexual Function in Man. A. H. P. Leuf.
131 Acute Purpura Hemorrhagica, with Autopsy. F. W. Gavin.
132 Water Analysis. J. L. Wolfe.
133 Lithemic Orchi-Epididymitis. W. H. Lyne.
134 The Female Bladder. A. L. Russell.
135 Tonsillitis and its Treatment. Chas. F. Hope.
136 Puerperal Infection and its Treatment. I. B. Washburn.
137 Asepsis in the Lying-in Room. Joseph B. Cooke.
138 *Suprarenal Extract in Diseases of the Eye. W. H. Bates.
139 The Injection Method for the Relief and Cure of Hernia. C. Fletcher Souder.

St. Louis Medical and Surgical Journal, March.

140 La Grippe. Wm. Hooker Vail.
141 The Necessity and Value of a Good Eliminant in Post-grippal Conditions. A. H. Ohmann-Dumesnil.
142 A Practical Prescription Applicable in Many Affections of the Air-Passages. Ed. Gros.
143 A Case of Chronic Rheumatism. L. B. Smith.
144 The Treatment of Enteritis with Xeroform. Giovanni Petrucci.
145 Some Anomalous Cases of Typhoid Fever. Augustus A. Eshner.

Memphis Medical Monthly, March.

146 Mosquitoes in Malaria—A Further Consideration. Wm. Britt Burns.
147 *The Etiology and Treatment of Hemoglobinuric Fever. J. B. McElroy.
148 *Clinical Notes on a Few Cases of Malarial Hemoglobinuria. J. W. Laws.

Georgia Journal of Medicine and Surgery (Savannah), February.

149 A Study of Artificial Infant Feeding. W. E. Fitch.
150 Hysteria, its Nature and Etiology. Henry Brooks, Jr.
151 Rotary Lateral Curvature of the Spine. Daniel W. Marston.
152 *The Diagnosis of Ectopic Pregnancy before Rupture, Based on Eleven Cases. J. F. Baldwin.
153 Extensive Skull Fracture with Recovery. A. J. Richter.

AMERICAN.

2. **Laboratory Feeding.**—Some of the questions in regard to infant feeding are noticed by Griffith, who insists on the value of milk laboratories as they now exist in large cities. One of the secrets of successful feeding is, he thinks, to have the infant begin with a low percentage. We should not take mother's milk as the standard for artificial feeding. The proteids of cow's milk differ from those of the human species, and this mistake is sometimes made. In the first two weeks of life the child should be treated with .5 per cent. proteid, and even later in the first year it is wise to begin with low proteid. We should begin with a small amount of fat, 2 per cent. instead of the normal 4 per cent. of woman's milk and a little less than the normal percentage of sugar, 6 per cent. instead of 7, for example. For a very young baby, therefore, who has had signs of indigestion without serious disease, the formula of 2 per cent. fats, 5 per cent. sugar, .5 per cent proteids is best. This will not answer long, but the method of increase will depend upon the conditions. It is important to weigh the child weekly or semiweekly. If the increase in weight does not progress satisfactorily, look out for unfavorable symptoms and alter the formula. In any cases where the percentage feeding does not seem to agree, we should be sure the error is not with our own formula or method. There are idiosyncrasies in special cases, but they are rare and not to be our guide to practice. He gives an account of three cases showing the need of adaptation to the conditions in percentage formula feeding.

3. **The Widal Test.**—Robin describes the technique of the Widal test, the special apparatus devised by him for the drawing of but one drop of blood, and insists on the need of high dilutions in making the test, since one drop of normal blood, diluted 1 to 5 or 10, may at times produce agglutination. It is not difficult to obtain from the bacteriologist a culture of typhoid bacilli which can be kept in sealed tubes and be available at any time. The last cultures he had were sealed for eight months, and the bacteria none the worse for the confinement. He points out the difference between pure and pseudo reactions, and gives illustrations of them. The time limit is a matter of much importance, and the irregularity practiced in this regard is to be deplored. He would recommend the following: Dilution 1 to 10, time limit five to fifteen minutes; 1 to 20, fifteen to thirty minutes; 1 to 40 to 1 to 100, thirty to sixty minutes; 1 to 100 to 1 to 200, one to two hours. That would mean that if within the specified time a considerable number of bacilli are found actively motile or, if dead, fail to arrange themselves in clumps, the reaction is to be pronounced negative, irrespective of the clumps which have already formed. He says there is no reason why the general practitioner who is removed from municipal laboratories may not make the Widal test himself, if he is properly instructed.

7. **Erythromelalgia.**—Elsner reviews the history of erythromelalgia and reports cases. He does not consider the condition as yet worthy to be called a disease per se; it seems to be attendant to a great variety of conditions. He is inclined to consider it as a circulatory rather than a nervous disorder, the result of secondary vascular changes.

9. **Gelatin Injections for Aneurysm.**—Three cases of thoracic aneurysm were treated by Conner by gelatin injections. In two they had to be discontinued because of severe local pain. In one case where seven injections were given, a very slight improvement could be detected, in another a slight increase of the symptoms was noticed, while the third died under treatment, from rupture of the aneurysm. The autopsy showed no evidence of recent thrombosis, though the conditions were favorable for such formations. Aside from pain and local irritation no bad symptoms were observed in any case here noticed. He is not ready to conclude that the method has no therapeutic value, since in none of these was the treatment fully carried out, but he thinks its usefulness is seriously impaired by the severe pain which it often produces.

10. **Ameba Coli.**—The following, Craig claims, have been demonstrated by the study of stained specimens of ameba coli: 1. That vacuolization is a degenerative process, as the young amebæ show no vacuoles, the full-grown healthy ones, few, while the amebæ in which they are most numerous are degenerate bodies, showing neither a nucleus nor inclusions of any kind. 2. That there occur in all but the degenerate forms of amebæ, small, round or oval, unstained areas, uniform in appearance, and most numerous in the large, full-grown forms, and entirely absent in the vacuolated shells of amebæ. These areas resemble similar ones observed in stained, segmenting malaria plasmodia, which are, in them, due to the young spores, which take the

stain but faintly. Reasoning from analogy, it may be that these areas in the amebæ are also spores. 3. That in the protoplasm of the ameba, there occur peculiar structures, evidently not bacterial in nature, the significance of which it is impossible to decide. It may be that they are certain crystals which occur in the feces and which have been absorbed by the amebæ. 4. That degeneration of the amebæ takes place in two ways, i. e., by vacuolization and by fragmentation.

11.—See abstract in THE JOURNAL, XXXV, p. 448.

15. **Biliary Calculi.**—Beck reports his success with skiagraphy of biliary calculi *in situ*, and gives the essentials for success. The first condition is a strongly built and powerful tube which will bear a fifteen-inch spark for about five minutes without becoming too hot; it should be of medium hardness so as to permit the permeation of soft tissues without the denser ones, and this can be best decided by its effects on the hand. If the bones of the wrist appear grayish-black, but well defined, while the softer tissues show but little, the tube is suitable. If the tube is too soft the bones will be intensely black. The tube should always be new, as later they show less contrast. The position of the patient is also important; he should lie on his abdomen with about three pillows underneath his clavicles, so as to bring the gall-bladder nearer to the photographic plate. Another point is that the rays should not penetrate the abdomen in the vertical position, but from the side, so that the thick an less transparent tissue of the liver is not traversed in its whole diameter. The direction of the rays at an angle of about 70 degrees to the slant is best. The bowels should be freely evacuated. He admits that the method needs further improvement, but he maintains that even a faint skiagraphic reproduction of biliary calculi proves their existence to the expert, though a negative result cannot insure their absence.

17. **Specific Treatment of Dysentery.**—The points made by Cruikshank are that dysentery is contagious and infectious, that the germ is introduced into the system through food and drink, that the disease is the same wherever it is found and only varies in its intensity. As to the majority of therapeutic agents, they are usually useless and, in many cases harmful, but the sulphate of magnesium properly administered in the acute form of this disorder acts as a specific.

21. **Gonorrhea.**—Woodruff treats gonorrhea by the use of hot normal salt solutions, the good effects of which were first noticed accidentally, but which he has followed up with good success. He usually gives an astringent injection to use two or three weeks after leaving the hospital. He suggests the possibility that gonorrhea is a self-limited disease, with periods between forty and sixty days. Chronic and severe cases would then occur in persons of abnormal lack of resistance, and in those of bad habits generally.

23. **Colitis.**—Bolton reports a case of severe colitis treated by the formation of a cecal colostomy with a valvular opening through which irrigation of the colon was carried on. From the first the diarrhea began to improve, and at the end of two weeks no ulceration of the mucous membrane could be seen, while at the end of the treatment the condition was apparently normal; the patient had gained 10 pounds. A pad was worn for twelve days, at the end of which time the fistula healed. A small ventral hernia has appeared at the site, but he thinks it can be easily controlled by operation. In the future he shall adopt the intermuscular incision of the abdominal wall.

28. **Intestinal Anastomosis.**—Cumston's article is a historical one, in which he calls attention to the fact that in the work on surgery, published in 1769 by Bertrandi, he gave an account of a case where the trachea of a calf had been dried and softened in hot alcohol, then covered with Peruvian balsam and used as a bobbin in intestinal anastomosis with success. This method of intestinal anastomosis even then was an old one, since it was mentioned by Pierre d'Argellata that four surgeons had employed it, the pieces of trachea being afterward expelled in the natural way. He is certain that this refers to the end of the thirteenth century. He also mentions other operations described by Bertrandi, including that for extra-uterine pregnancy.

38. **Non-Obstructive, Post-Operative Anuria.**—Brown reports a case of post-operative anuria due to delayed surgical shock, which was interpreted as a manifestation of auto-intoxication due to renal suppression in a person of poor constitution and emotional temperament. The possibility of the septic state was also conjectured. He uses the case to point out the mistakes made and the measures to be taken for their avoidance in future similar cases. In such a patient with a questionable heart he would in future give a large stimulating enema and have it repeated immediately after the operation if there was then the smallest indication. Nitrous oxid gas and ether should be employed for the anesthesia, preferably to chloroform. The medication should be given subcutaneously or by rectum, and all vomiting met with hot lavage. The first manifestations of anuria would be looked upon, where the pulse is small and rather rapid, as due to vasomotor paresis or cardiac weakness with lowered renal pressure, the result of shock, and stimulation to be employed.

39. **Stone in the Kidney.**—Bevan's article notices the use of the *x*-ray in the diagnosis of kidney calculi. As regards his own experience, which includes seven nephrolithotomies and two cases in which the stones were removed from the kidneys converted into pus sacs, he has been agreeably surprised in having no mortality, and he believes that the mortality from nephrolithotomy is not so great as we have beeen led to suppose. The prognosis as regards permanent cure is not so good as after operation for bladder stone or gall-stone, still, in some cases the operation has been followed by complete and permanent cure. He thinks the best incision for nephrolithotomy is an oblique one, beginning a finger's breadth below the last rib and running obliquely downward and outward to a finger's breadth above the anterior superior spine. This can be easily extended by splitting the external oblique downward to get the fullest exposure of the ureter, if necessary. The kidney is freely loosened from its bed so that it remains attached only by its vessels and ureter, and can be brought out of the wound in perfect view unless in very obese patients, while the operator can in them control the pelvis and vessels. He says: "Don't be afraid of large incision." "Don't be afraid of dislocating the kidney." The kidney, its pelvis and vessels under perfect control, is split by an incision two or three inches in length on its convex border, the pelvis opened and examined, and the stone or stones removed. Then wash out with a hot normal salt solution, carefully examining for remaining fragments. If none are found close the wound with deep medium-sized catgut, the external wound with buried catgut and silkworm gut, excepting a small portion for drainage. Where pus-infection exists, the pelvis should be drained. Where stone is found by the *x*-ray and can be diagnosed by palpation, a small incision can be made and the pelvis closed by Lembert's sutures, as has been done by Morris. Care should be taken to prevent pushing of small stones into the pelvis and dilated ureter and, where the kidney is not brought out of the wound, pressure can be made with the fingers to collapse the pelvis and prevent a stone slipping in during the efforts at removal.

40. **Hernia of the Fallopian Tube.**—Morf reports a case of this condition and discusses its etiology, morbid anatomy and treatment. In this case the woman probably had congenital hernia of the left oviduct, complicated by epiplocele, the fat of which underwent serous change. Shortly before the hernia became irreducible, the patient probably acquired an acute vaginitis, the infection extending upward into the hernial sac. The microbes, finding a favorable culture-medium on the omentum, multiplied, exudation and pus formed, and as a result the hernia became increased in size and irreducible. The diagnosis is not always possible in these cases; in none of those reported has it been absolutely correct. The radical operation, he thinks, is demanded in all instances. The paper closes with abstracts of reported cases in the literature.

42. **Resection of Pendulous Abdominal Wall.**—Peters reports a case of pendulous abdominal wall in which an immense transverse gore of the enlarged adipose abdomen was taken out, leaving the patient after recovery in a good condition with a reduction of over 60 pounds of weight and a normal abdomen. He

refers to a previous case similarly operated on by Bullitt with good results.

43. **Hydrocele.**—Tait recommends eversion of the tunica vaginalis as a cure for this condition, and describes the operation; also a simpler one first published by Longuet and given his name, though Tait himself employed it independently of Longuet's publication. The operation consists essentially in the inversion of the cellulo-fibro-vaginal layers without decortication or hemostasis; the testicle is transposed. A transverse fold is taken up over the testes and cut with the scissors down to the serosa, under local anesthesia. The serosa is cut in like manner, neither cut exceeding 3.5 cm. The testicle is then drawn out upward and forward, the scrotum being at the same time pulled in the opposite direction. The tunica vaginalis and overlying fibrocellular tissues follow and are turned inside out. One or two sutures are taken to secure the vaginalis in its new position; these stitches are placed in such a manner as to avoid injury or strangulation of the cord. Chromic catgut (two weeks) is perhaps preferable to the ordinary gut, which is absorbed too early. The testis is not placed in its original position, but a new bed is made for it in the middle of the inner lip of the incision by gently dissecting the cellular tissue with the finger. The resulting new cavity is inside of and parallel to the old cavity. The testicle is slightly twisted on its axis, not being in normal anteversion but in retroversion, rotated inward a quarter of a circle and lying directly against the raphe. The position of the testicle may be defined as retro-latero version. The wound is then closed with two or three stitches. The operation is completed within a minute or two; no hemorrhage is noted; and the immediate effects are barely noticeable, thereby differing radically from all the other methods. There is no local reaction or infiltration of the soft parts, no tenderness, and within a few hours after the operation palpation of the testis does not elicit more than the normal sensitiveness. Consequently, the patient may resume his work on the following day. Nothing simpler, neater, nor more expeditious could be imagined. In a very large hydrocele, Longuet combines the above procedure with partial excision of the vaginalis, using elastic clamps and a continuous hemostatic catgut suture on the cut edges of the serosa. He claims that this operation will prove serviceable in the majority of cases of hydrocele and cysts, also where the surgeon is desious of exploring the serous sac of the tunica vaginalis, testis, or epididymis, and in some cases of hernia complicated with hydrocele and in the presence of numerous cysts. Three cases are reported.

50. **Hallucinations.**—The general subject of hallucinations is reviewed by McCorn, who summarizes his conclusions in regard to them as follows: Hallucinations are not new creations; they are composed either of present or of latent memory-pictures or ideas, and are accordingly designated concomitant or spontaneous, respectively. They are not due to an external stimulus, but to one within the sense organ itself—one acting on its sensory tract or the sensation cells of the brain cortex. Hallucinations may affect any or several of the senses simultaneously, and influence thought and action according to their contents and the importance ascribed to them by the patient. They may be due to toxic conditions—whether caused by drugs or infectious diseases, disorders of nutrition, the effects of extreme heat or cold—and often accompany the functional neuroses. They are particularly common in paranoia and dementia in their various forms, but occur more rarely in the affective psychoses.

55.—This article has appeared elsewhere. See THE JOURNAL of February 2, ¶116, p. 350.

56. **Bacterial Poisoning in the Lower Organisms.**—Klingmann's paper is a statement of the facts which have already been published by him and noticed editorially in THE JOURNAL, XXXV, p. 128, on the influence of bacterial toxins on vegetable forms of life, algæ, etc.

60. **Interstitial Keratitis.**—It is assumed by Callan that the majority of cases of this condition are due to inherited syphilis, and the question may arise as to whether this can be avoided. The conclusions which he reaches are: "The offspring of syphilitics show the evidences of the inherited taint in only a slight percentage of the cases; that is, if we except those children under 5 years of age. Only a slight percentage of such children develop interstitial keratitis. When the disease attacks one eye, all our treatment appears to be powerless to prevent its development in the fellow eye. We may possibly delay, but we can not prevent, the outbreak of interstitial keratitis in certain cases."

72. **Trachoma.**—The method proposed by Jameson seems to be a sort of mild superficial grattage, with a special instrument devised to attack superficially and repeatedly and thus eliminate all granular growths.

76. **Influenza and Glaucoma.**—The physiologic relationship of influenza and glaucoma are illustrated, de Schweinitz thinks, by the case which he reports. It started, he says, through the axial neuritis which is so frequently caused by epidemic influenza and which more frequently than perhaps any other condition, is a starting point of glaucomatous excavation of the nerve-head.

77. **Methyl Alcohol Blindness.**—Cases of Jamaica ginger blindness that have been reported have been already noticed editorially. Harlan reports two in which an analysis of the ginger essence was made. It seems that blindness is not only caused by Jamaica ginger essence, but by others, as lemon, peppermint, etc., which are made up with methyl alcohol.

79. **Jaundice from Gastroptosis.**—The patient whose case is reported by Steele had an attack of abdominal trouble, possibly hepatic colic or some gastro-intestinal inflammation which probably involved the peritoneum, with formation of adhesions. After this came symptoms of chronic gastro-enteritis. In the course of a year jaundice appeared, and steadily increased, with moderate loss of weight, and slight secondary anemia and leukocytosis. Inflation of the stomach showed decided gastroptosis. The stomach was restored to its place by a belt and the jaundice immediately began to improve and in seven months disappeared. Bile is not present in the urine and has reappeared in the stools. He discusses the possibility of gastroptosis causing jaundice by obstruction of the bile-ducts, and concludes that this can not be the case without adhesions from some previous inflammatory condition, such as was supposed to have occurred in this case.

81. **Ammonium Persulphate.**—Ravenel and Gilliland have experimented with this salt, which has only of late years been reduced to such a price as to make it available for a disinfectant. He finds that, experimenting with solutions of various strengths, it kills the microbes of diphtheria, typhoid, and ordinary pus microbes at various periods from fifteen or twenty minutes to one and one-half or two hours, and the anthrax spores are killed by a 5 per cent. in thirteen hours. He finds it also of considerable value as a deodorant. Forty c.c. of a 5 per cent. solution was added to 530 c.c. of decomposed blood and boullion, and almost thoroughly deodorized in twenty minutes. Ribbons of delicate colors, immersed in a 10 per cent. solution for one and two hours, showed no apparent change of tint.

83.—See abstract in THE JOURNAL, XXXV, p. 1171.

86.—Ibid., p. 1104.

88. **Gall-Bladder Surgery.**—Three cases are reported by Munro, which he thinks point out the necessity of early operation in all marked cases of gall-stones, since, after the attacks are allowed to go on, the operation becomes, for some reason not yet explained, a serious undertaking. The ideal cholecystotomy is worth trying if the surgeon is sure that this is not contra-indicated. Cholecystitis is better drained surgically than medically, other things being equal. The possibility, not so remote as has been heretofore considered, of pancreatitis, should weigh on the side of urging operation for gall-stones. The majority of gall-bladders can be reached easily and properly through a short vertical incision in the outer third of the rectus. Any nerves coming in the way can be pushed aside and not destroyed if care is taken.

90.—See abstract in THE JOURNAL of January 12, p. 127.

91. **Hernia.**—Kocher's new operation is described by Renz, which is a modification of his old method, as follows: In the new operation the small opening above and outward to the

internal ring is continued into the peritoneal cavity, a long forceps introduced into the inside of the sac, its end caught and pulled; the other steps of the operation are the same as above. This inversion of the sac is the essential point; it forms a pyramid toward the inside of the abdominal cavity instead of outward into the canal; consequently, every time the patient coughs, the abdominal wall distends and he is, as it were, trying to pull his internal ring into the abdominal cavity, or at any rate the sac. With this operation the patient remains in bed but two weeks; the results are excellent, Kocher claiming but 3 per cent. of returns; the operation is simple and is ideal in its plan. Unfortunately the method is not applicable to direct herniæ, nor in the oblique ones where the sac is too thickened and enlarged, but in suitable cases Renz finds it highly useful and recommends it.

99. **Sphenoidal Wing Sinuses.**—Douglass calls attention to the extension of sinuses of the sphenoid into the sphenoidal wings, and the variation of their development, illustrating the anatomical possibilities with a number of plates. The practical bearing of the existence of these cavities is that disease may continue in them even after that in the ethmoid cells is cured. These accessory sinuses, therefore, will escape treatment and trouble may ensue The possibility of their existence should be borne in mind and their anatomical relations studied.

100. **The Tuning-Fork Test in Antral Disease.**—The use of the tuning-fork for testing for disease of the maxillary antrum is recommended by Kuyk. If the antra are free and clear, the tone may be heard with equal distinctness and for a like duration over each side and on the first and second molars, but if one antrum contains fluid, its tone should be fainter. If the symptoms are obscure and transillumination gives a shadow on the one side and none on the other, with subjective symptoms indicating disease, the use of the tuning-fork may confirm the diagnosis. He has also used it in cases of frontal sinus disease, and thinks it may be used with other conditions, in mastoid and ethmoid infections.

104. **Choroidal Melanosarcoma.**—This article reviews the symptoms and stages of the condition and reports three cases. Alter's conclusions are summarized as follows: "1. Melanosarcoma of the choroid is a fatal disease. Probably not more than 15 per cent. make an absolute recovery after operation. 2. The prognosis of this affection, though grave in all stages, is best with an early operation. 3. It is well-nigh impossible to make a diagnosis of acute inflammatory glaucoma due to tumor when the fellow-eye presents a glaucomatous aspect, as evidenced by Case No. 1 recorded in this paper. 4. The round-celled highly vascular tumor speaks almost unequivocally of a fatal termination. The spindled celled growth gives a much more hopeful outlook. 5. The presence of melanin in the urine give strong evidence of metastasic involvement. It foreshadows a fatal termination."

117. **Climate of Western Texas.**—Rawlings describes the climate of El Paso, which he thinks possesses the essentials of sunshine, dryness and rarefied air suitable for the proper treatment of pulmonary diorders. Bronchial asthma is also greatly benefited, but the fibroid form of phthisis is not so much so, nor is laryngeal tuberculosis. The climate is at its best for these cases for seven months of the year. The mid-summer months, which is the rainy season, are less advantageous, but there is a region, high and spruce-covered, within 120 miles, which furnishes ideal conditions. Cases in the late stages are not benefited by the climate anywhere.

138. **Suprarenal Extract.**—Bates gives his experience with suprarenal extract in various ocular troubles. He has treated many recent cases of conjunctivitis successfully with local applications, and found it a valuable remedy in keratitis, iritis, glaucoma and lacrimal disorders. Two cases of lacrimal fistula have been cured without other operation. As a hemostatic for eye operations, he believes it the best, and he considers it a safe remedy to use in all inflammations of the eye. When it does good after the local use, the benefit is apparent in less than a minute.

147. **Hemoglobinuria.**—McElroy endorses as rational the advice of Bastianelli to use quinin when malarial parasites are present in the urine, and not if they are absent. If quinin has been given before hemoglobinuria appears, and no parasites are in the blood, it should be suspended, but if the parasites persist, it should be continued. He reports cases and thinks on the whole, however, that the better plan is to give quinin to prevent the attack, and suspend its use as long as hemoglobinuria and albumin continue. Then, if fever continues, quinin may be given successfully without danger of producing another attack. In oliguria and anuria the best plan is to withhold quinin. When diarrhea is absent, he gives calomel in 10-gr. doses, at intervals of three hours for three doses, and if this does not act sufficiently, assists its action with hyposulphite of soda. At the first appearance of oliguria the safest procedure is to apply dry cups to the loins, followed with poultices, and administer normal salt solution hypodermically.

148. **Hemoglobinuria.**—Laws thinks it is necessary to determine whether the micro-organism is active, to intelligently treat a case of malarial hemoglobinuria. Where the organism is still active, he would give quinin, but where the condition is more of a toxemia due to spent activity of the organism, we should discard it. As a general rule, where the fever is of an intermittent type, or even a remittent type with chills, quinin should be given, but remittent fever with slight variation in the temperature is not often thus benefited. He mentions the use of sodium hyposulphite, but does not apparently endorse it. He thinks, however, elimination through the bowels and kidneys is of prime importance.

152.—See abstract in THE JOURNAL, xxxv, p. 841.

FOREIGN.

British Medical Journal, March 9.

Neglect of the Actual Cautery in Surgery and Its Value in the Treatment of Pruritus Ani. WILLIAM M. BANKS.—The neglect of some old methods which in former times had been abused is regretted by Banks, and he calls special attention to the use of the actual cautery which, he maintains, may be of great value in certain conditions. Among them he mentions syphilitic periostitis, in which the cautery might be more extensively used, especially in the late forms. He reports a typical case in which he obtained relief with this method where other means had failed, and also certain joint diseases, not the white swellings of children, but the gouty or rheumatic gouty conditions. He says that we have neglected this method too much and gives two or three patients' accounts of their experience with it after others had failed, one in which chronic arthritis of the knee, for example, had been treated with the Thomas splint without benefit and was almost immediately helped by cauterization. Still another condition is spinal inflammation after injury, and in conclusion he mentions a disorder for which the use of this remedy seems to be almost new, viz., pruritus ani. The great majority of the ordinary cases of this form of pruritus are curable when the cause is found out, but there are a certain number in which he could find no evidence of any local or systemic cause, and yet the itching is most intense. For some of these cases he believes the actual cautery will be the best form of treatment and reports one or two. It is only in those very serious cases in which no cause can be found that he ventures to recommend it; he has used it perhaps a dozen times for this purpose in the last twenty years. The value of the remedy, he says, lies in its being unfailingly curative in certain otherwise intractable cases.

Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. J. MITCHELL BRUCE.—This is the first of a series of Lettsomian lectures on diseases and disorders of the heart and arteries in middle and advanced life. The mode of inquiry which Bruce purposes to follow is by an analysis and study of a large number of instances, their origin, clinical characters, course and result. He thinks that perhaps our attention lately has been too much confined to the pathologic states of the heart and arteries and too little to causes which produce them. Arterial sclerosis is too often accepted as the final diagnosis, without regard to the actual nature of the general pathologic factors, whether strain, syphilitic, gouty, or otherwise. He first notices the normal heart after the age of 40. The blood-pressure up to 45 is apt

to be high, but at that age remarkable changes occur. While the arteries continue to increase in circumference, the blood-pressure falls and the heart begins to diminish in size. These three features characterize the circulation for the next twenty years. The fall in the size of the heart is partly accounted for by the widening of the arterial trunks, but not entirely, and the other causes which he suggests are the probable reduction of mechanical stress due to bodily relaxation, the loss of vasomotor tone in the splanchnic area, and chronic diseases which come on at these periods. At 65, other changes occur; the peripheral resistance becomes increased, the blood-pressure rises, the heart once more increases in size, till, at 75 years, it is as large as at 45, and the hemoglobin value of the blood again proves to be higher. The arteries continue to grow wider, thicker and longer, another proof that the size of the heart is not diminished altogether by their caliber. These become strengthened by the fibroid tissue and the heart responds to the altered mechanical condition in the arteries. In the great majority of cases of persons who have passed to old age, the arteries are still generally sound, according to the investigations of Humphry and others, and the actual changes may be considered probably not normally senile in their nature. They are rather the effects of pathologic processes which the author enumerates. 1. First among these he mentions physical strain. He says that we must speak with due caution as regards muscular exercise, but he feels sure that after 45 years of age, excess in this direction may be dangerous. The principal safeguards which the arteries possess against strain is their extensibility and elasticity, but the disorders liable to occur at this age, including gout, are just the ones which are accountable for weakening of the walls of the vessels. 2. As to the nervous system, he mentions cases where nervous strain in conditions of special stress have caused arterial and cardiac degeneration. However clear the direct connection between nervous strain and cardiac vascular disease happens to be in some heart cases, it is in others unreal and this is a matter of great importance. The nervous temperament often drives the subject of it to physical overwork with insufficient rest or sleep, and to the unwise attempt to remove the nervous exhaustion by violent muscular exercise. Worry often induces recourse to alcohol and stimulants, while many of the complaints of nervous depression, lowness and worry are really due to gout, influenza, etc., which are at the same time the true cause of the cardiac symptoms. 3. Extrinsic poisons, alcohol, tobacco, tea, coffee and lead are next considered. There is no need of proof of the reality of the connection of these with cardiac disorder, and they will be mentioned further on under the head of diagnosis. 4. Disturbances of metabolism are taken up next, including gout, which seems to be favored by substitution of quiet for active healthy exercise, and while the demands on the growth of the alimentary system have declined, the pleasures of the table are too much indulged in, with the result of functional disorders of the liver and gout in various forms and many other disorders of that character. At the same time the arterial tension rises and stimulation of the vasomotor center by nitrogenous waste occurs, and the arterial pressure, heart-vessels and kidneys are kept under excessive strain to carry off the extrinsic poisons; like other vessels working under strain, they are the first to suffer, so we have chronic Bright's disease, cardiovascular degeneration, etc. 5. Syphilis by no means always ceases to attack the organs of circulation after 40, and is a standing danger to the heart and arteries of men of middle age, and even in declining years. 6. Among acute diseases he notes influenza in particular, but also typhoid, rheumatism, diphtheria and syphilis in various forms. 7. The chronic disorders, anemia, exhaustion, etc., are next considered. 8. Among complex causes he first mentions emphysema and other chronic diseases of the lungs and pleura, which strain the right ventricle, and chronic Bright's disease, which similarly strains the left ventricle. Various agencies combine together and the result is disastrous. The wear and tear of life may be stated, in a general way, to be the cause of cardiovascular disease, but it must be remembered that in many cases the heart and blood-vessels may have been damaged in early life so that they fall victims to influences which would have been insufficient otherwise, and in the second place the heart and the vessels at 40, though apparently free from danger may be molecularly weak and unable to offer effective resistance even to ordinary strain. Lastly, the author calls attention to family idiosynerasy, as in the case of hereditary senility where the patient becomes prematurely old. A type of cases described as family heart is noticed, where cardiac disease seems to run through various members of the family. We find men, say 30 years of age, with vessels already enlarged and lungs emphysematous without any history of respiratory strain.

Histology of the Urinary Tract in Its Relationship to Morbid Urinary Deposits. G. LESLIE EASTES.—The author first notices the normal and morbid histology of the urinary tract, describing the epithelial linings in the different parts. The Malpighian capsule and its neck are lined with a flattened epithelium very similar to that of the serous cavities. The first convoluted tubule has individual rodded cells with granular-looking protoplasm toward the free edge. The descending loop of the tubule and loop of Henle are lined with clear flattened cells, while the ascending limb and second convoluted tubule are like the first portion of the tubule with granular rodded epithelium. The junctional tubes and ducts of Bellini, which latter open directly into the pelvis of the kidney, have an epithelium consisting of clear cubical or columnar cells. In the course of over 6000 microscopic examinations of urine, from cases of nephritis where centrifugalization was practiced, he has never been convinced that he has seen the clear flattened epithelial cells of the Malpighian corpuscles. He has, however, he believes, recognized the granular rodded epithelium, and the cubical or columnar epithelium of the latter parts of the tubules is most commonly found when renal epithelium is present. This is what might be expected since the lumen of the collecting tubules is broad enough to allow the passage of isolated cells with ease, while the lumens of the loop of Henle and of the collecting tubules are so small that it is a matter for surprise that the epithelium, peculiar to those situations, when shed, can squeeze its way through. In a few cases of examination of the urine in carcinoma of the kidney he has found abundance of renal epithelium. Epithelial cells do not appear isolated as in tubal nephritis, but were frequently found in clumps indicating a rapid proliferation. Of sarcoma of the kidney, cysts, angeioma, etc., he has nothing to say. In a few cases he found indications which led him to suggest the existence of buried calculus, which was found later. These indications were the characteristic renal blood, with hyaline casts, epithelial cells, the size, shape and appearance of which suggested an origin in the collecting tubules; there were no epithelial casts, but blood-casts were present. In every case there was much free uric acid in the deposit, and the crystals aggregated together. Pelvic epithelium was lacking, or, if present, in very small quantities. Chemical examination showed more albumin than was accounted for by the blood present. There was also in each case a history of tender kidney with, usually, reflected pain. The characteristic epithelium of the renal pelvis is what is known as transitional. It consists of about four layers; the free edge with flattened cells; the next one or two, spindle or pear shaped, and the last layer composed of cells which are remarkably pleomorphic. The cells of the deeper layers are most easily recognized and the commonest forms a rounded body with granular contents and nucleus, usually tailing off into prolongations, the length of which may be two or three times that of the diameter of the body. These are only shed when there is extensive damage to the renal pelvis and the movement of the stone frees them. There are also usually blood and hyaline casts, and a slight though constant leucocytosis in this condition. In pyelitis due to other causes, similar cells, together with pus, are usually found, and the deposit contains casts. When the pyelitis is due to any other disease than tuberculosis, numerous bacteria are present. Eastes frequently noticed that in pyelitis casts are present which are broad and contain many bacteria, though pus casts are rare. In all lesions of the renal pelvis he has found more albumin than the microscopic examination would apparently indicate. The renal pelvis may contain neoplasms usually of the papillomatous variety, and they not infrequently become malignant. He has been able to diagnose this con-

dition from an examination of the deposits. Of the ureter, he has nothing special to say, but the diseases of the bladder that can not be diagnosed by examination of the deposits are very few. In cystitis the cells are usually derived from the surface of the epithelium, and there are few of the more characteristic tailed and pear-shaped cells of the deeper layers of the mucosa. In the epithelium the cells are highly pleomorphic, but the most characteristic cells are found in cases of villous growth; papillomata usually, but sooner or later almost certainly become malignant, with a marked tendency to infiltration at the base. These cells are exceedingly long and of remarkable thinness. The urethra is lined with a columnar epithelium, but it is rare to see this in perfection in the urinary deposits. It is only seen well where a small calculus has been passed. In gonorrhea or urethritis of septic origin there is much epithelium, but it is swollen and altered in appearance. If the prostate supplies fresh epithelium, it is unrecognizable. The only thing he has to say about it is that in the urine of lads between the ages of 14 and 20, which is at the period of prostatic growth, he has frequently found clumps of clear, luminous, pear-shaped cells imbedded in a mucoid material. He has never seen this in girls, and therefore is inclined to think they may be derived from the prostate.

The Lancet, March 9.

Public Health and Housing. JOHN F. J. SYKES.—This second lecture is devoted to the effects of certain kinds of dwellings upon the health. The author notices the peculiar conditions, bad ventilation, coldness, water-supply, etc., and remarks that these are the characteristics of the jerry-built dwelling-houses, the flimsiness being the cause. It has been shown by experiments that putrid gases predispose animals to the infection of attenuated morbid germs of disease, therefore, bad drainage and sewage will have its direct influence upon the health. The latter part of the lecture dwells on special forms of structures, windows, streets, admission of light, air, etc. He condemns the inside staircases for compound dwellings, as they are seldom properly ventilated. The common stairway should be the external one. He finds that it is a mistake to make large rooms for poor people, as it only leads to overcrowding. If the same sized family that could live in one very large room should live in two smaller ones, there would be a better sanitary condition, as well as physical well-being.

The Statistics of Gastric Ulcer, with Special Reference to Gastric Hemorrhage, Its Frequency and Fatality. BYROM BRAMWELL.—The accepted statistics of gastric ulcer are questioned by Bramwell, who thinks that the methods of estimating them are unreliable. It is probable that a larger portion than 5 per cent. have at one time or other in their life suffered from gastric ulcer. This may or may not be correct, and is only taken as approximately so. It is difficult to estimate the mortality from this cause, and he thinks it may vary very materially from year to year. He also criticizes Mayo Robson's conclusion with regard to the frequency of fatal hemorrhage. Errors of registration are perhaps less likely to occur in cases of hemorrhage than in cases of perforation. He believes that physicians of large experience will agree with him that death from hemorrhage from gastric ulcer very rarely occurs. He can himself recall but one case in hospital practice, and another that he saw in consultation, from what was thought to be duodenal ulcer, which, however, may have been gastric.

Pure Urea in the Treatment of Tuberculosis. HENRY HARPER.—The writer says he has used pure urea in a large number of cases of tuberculosis, and believes it to be a remedy of superior value to any used at the present time. With its administration, he applies treatment in the broad sense, pure air, plenty of nutritious foods, especially those rich in albumin. These act as an antitoxin, and render the tissues and fluids of the body proof against the bacteria finding a suitable soil. Twenty-nine cases are reported, all diagnosed microscopically as well as otherwise, and all apparently hopelessly bad cases, with recovery or improvement. He remarks that careful and systematic examination of the urea excreted by the kidneys previous to the treatment is needed. In only two cases in which he examined the urine with Martindale's ureameter has he found any increase in the quantity of urea excreted. One thing he feels sure of is that urea, given as he employs it, in scruple doses three or four times daily, or hypodermically, has produced cures in some and improvement in other serious or bad cases, that he has been heretofore led to conclude were incurable.

Janus (Amsterdam), February.

History of Syphilis. L. HIRSCHBERG.—This thesis states that no ancient writer has described syphilis. Errors of interpretation have been found in all the passages that have been cited as purporting to describe what is now known as syphilis. A complete description is, however, on record in the Japanese government annals, dating from A. D. 900, when an official report was made of all the diseases existing in Japan at that time. The geographical discoveries of the fifteenth century permitted the introduction of syphilis into Europe with the malignancy usual to a newly-introduced disease. Certain parts of Europe were spared until long afterward, as for instance, Schleswig-Holstein and certain points of Norway, where the endemic raged comparatively recently with pristine malignancy. The Russian province of Kosloff is now undergoing this experience. After a disease has been common for generations, the receptivity of individuals becomes less. Besides this acquired immunity, there is also an ethnic immunity. In Iceland, for instance, although syphilis has frequently been imported, it rapidly dies out. The natives of Madagascar are likewise refractory to a certain extent, while severe cases are numerous among the Malays. "Government regulation of prostitution has a tendency to retard the creation of immunity and favors the evolution of severe individual cases."

Bulletin de l'Academie de Med. (Paris), February 19 and 26.

Hemoglobinuria in Malaria. TROUSSAINT.—The hemoglobinuric bilious fever of tropical countries is the direct result of malarial infection. The syndrome is caused by a process of special, transient demineralization of the blood, the result of the alterations in the liver, due to the malaria. Treatment should comprise the administration of small doses of quinin and the mineralization of the blood plasma by subcutaneous or intravenous injection of salt solution. These injections arrest the destruction of corpuscles by stimulating urinary depuration and thus favoring the elimination of urea, bile and sugar, all of which are demineralizing agents. At the same time the injections increase the isotonic power of the serum.

Appendicitis a New Disease. LUCAS-CHAMPIONNIÈRE.—Even if we group all the obscure inflammations of the bowels in the past, which may include cases of appendicitis, the total does not equal the number of cases of appendicitis in our day. It is evident, therefore, that it is comparatively a new disease, unknown to our fathers. Lucas-Championnière adds that whereas he had occasion to observe 34 cases of abscess in the iliac fossa, between 1882 and 1899, since 1899 he has seen 19. He suggests that the increasing consumption of meat, the epidemics of la grippe and the neglect of the old-fashioned salutary measure of an occasional purge are the factors that have resulted in appendicitis. Robin stated in the discussion which followed, that he had noted appendicitis 82 times in 1585 cases of hypersthenic dyspepsia with hyperchlorhydria. In this condition the waste of nitrogen averages 12.61 per cent. instead of the normal 5.4 per cent., and this favors irritation of the intestines. Pinard called attention to the frequency of puerperal appendicitis, having had occasion recently to observe 3 fatal cases in one month. Kelsch maintained that appendicitis is the localization of a general infection. It is usually a chronic process, with acute recrudescences, at the instigation of some secondary factor. He believes that appendicitis is even more common than we yet suppose, but persists in a latent symptomless form. Sahli calls it an "angina of the appendix," and compares it to the guttural exanthem of scarlet fever, pointing out the follicular structure of the appendix.

Bulletin Gen. de Therap. (Paris), February 15.

Efficacy of Guaiacol in Varices and Serous Effusions. ALLAHVERDIANTZ.—The region of the varices or of the effusion is painted with guaiacol, covered with oiled silk and cotton.

This treatment is repeated morning and evening for ten to twenty days. The author states that he has thus cured 7 cases of varices of three to seventeen years standing, rebellious to all other measures, 3 of varicocele, 5 of hemorrhoids and 2 of hydrocele, the latter being completely cured in three to five days, without surgical intervention. Pleuritic effusions and edema of all kinds do not require puncture but heal under the use of guaiacol.

Echo Med. du Nord (Lille), February 24.

Treatment of Hemorrhoids. H. FOLET.—The surgical treatment should always be dilation, either alone or accompanied by excision. The latter is done with the bistoury in case of non-infected hemorrhoids, but the thermocautery is to be preferred if they are infected. In simple cases hygienic measures suffice, re-enforced possibly by hamamelis or argyrin, which are sometimes, Folet adds, of a "great psychic efficacy."

Systematic Operation in Traumatisms of the Urethra. CARLIER.—Every person with an urethrorrhagia consecutive to a trauma of the perineal region should be operated on at once, even in the absence of a tumor or of ecchymosis, especially if he can not urinate spontaneously within fifteen minutes. Carlier combines external urethrotomy and urethrorrhaphy at one sitting. He has observed a number of instances in which anatomic lesions were very severe, although the symptoms indicated only a slight injury. The fact of urination after fifteen minutes does not speak for the absence of rupture, as the bladder may spontaneously evacuate its contents.

Gazette Med. Belge (Liege), February 21.

Treatment of Whooping-cough.—J. E. Godeau has asked a large number of physicians how they treat whooping-cough. He learned that 32 per cent. use belladonna; 23 per cent. carbolic acid; 20 per cent. the bromids; 12 per cent. creosote; 6 per cent. antipyrin and 2 per cent. opium. Godeau himself recommends inhalation of creosote and antispasmodics after the bronchitis is quieted. Belladonna, however, may be used before this.

Journal de Med. de Bordeaux, January 6.

Fate of Insoluble Substances After Subcutaneous Injection. X. ARNOZAN.—It has been supposed until recently that only soluble medicines were suitable for subcutaneous injection. Late researches, however, have established the mysterious fact that the leucocytes take up undissolved foreign particles and then have a tendency to congregate at the site of a lesion or any *locus minoris resistentiæ* thus bringing the medicinal substance exactly where it is most needed. Besredka administered a fatal dose of arsenious acid to animals after he had caused a cold abscess by inoculation with dead tubercle bacilli. A remarkable proportion of the total amount of arsenic was found in the pus corpuscles of the abscess. Others have also demonstrated that leucocytes loaded with foreign substances accumulate at the points where lesions exist. Landerer experimenting with balsam of Peru and cinnamic acid, Stassano with mercury and Montel with calomel and iodoform. The research of the latter is described in his thesis (Bordeaux, 1901). When a substance is dissolved in the blood plasm it becomes generally diffused throughout the organs, but when it is insoluble it is taken up by the leucocytes and carried to the blood-forming organs especially, and to the excretory glands. These facts suggest a possible explanation of the benefits of revulsive measures, of Fochier's fixation-abscesses, etc. The leucocytes loaded with the foreign bodies accumulate at the site of the lesion, and in case of foreign or autopoisonous substances isolate and thus tend to render them harmless.

Journal des Praticiens (Paris), February 23.

Toxic Dyspepsia in Children. SEVESTRE.—Children between 7 and 15 sometimes present symptoms which suggest a serious condition, but they are in reality merely manifestations of a toxic dyspepsia and yield rapidly to appropriate treatment. Headache is the principal symptom, aroused or increased by study, also insomnia or nightmares, and fever recurring at intervals of four to six weeks, with sometimes vomiting, persisting several hours to two days. The apex of the heart may be displaced outward by the dilated stomach, with arrhythmia and palpitation on the slightest effort. Appropriate diet, massage of the abdomen and cold morning douches or frictions will relieve the toxic dyspepsia underlying these symptoms. The gastro-intestinal atony can be counteracted by ten or fifteen drops before each meal, of a mixture of 3 gm. of tincture of nux vomica, 4 gm. of tincture of calumba and 5 gm. of tincture of illicium. Roast or broiled meats should be replaced by meat that has been sterilized by long cooking.

Combination of Autotoxic Dyspnea and Angina Pectoris. H. HUCHARD.—The patient whose case is described presented evidences of a toxic alimentary dyspnea from cardio-renal sclerosis, associated with true coronary angina pectoris and neuralgic or false angina from peri-aortitis. Each complication requires different treatment: the dyspnea is controlled by an exclusive milk diet for ten to fifteen days, with 50 cg. of theobromin two or three times a day. The milk diet is resumed for five or six days twice a month afterward, accompanied by 25 to 50 cg. of sodium iodid during the day. At other times the diet should be restricted to vegetables, fruits, a little meat, one powder of 50 cg. of theobromin once or twice a day and a glass of Evain-Cachat water. If the milk produces diarrhea, it should be controlled with bismuth subnitrate, 1 gm. to each cup of milk. Kefir is another effective measure for control of the diarrhea. Constipation will yield to one or two teaspoonfuls of magnesia, or the usual measures. The peri-aortitic false angina pectoris indicates revulsive or analgesic remedies, but the coronary, true angina requires vasodilating medication to reduce the blood pressure, inhalation of amyl nitrite, subcutaneous injection of trinitrin during the attacks, and, during the intervals, trinitrin, tetranitrol or iodids by the mouth. This reduces the pain of the angina but does not affect the dyspnea, which can be controlled only by promoting renal elimination by the milk diet, which must be kept up as directed, at intervals, for months or even years.

To Expel the Oxyuris in Children. DEGUY.—Four days are required for the course of treatment recommended. First a calomel purge and milk exclusively, for twenty-four hours, then 5 cg. of santonin before breakfast for two days, followed by a rectal injection of a .5 per cent. solution of nitrate of silver after a cleansing injection. It is retained for five minutes and followed by an injection of salt solution to neutralize any excess of the nitrate of silver.

Revue Gen. d'Ophthalmologie (Paris), February.

Traumatic Atrophy of the Optic Nerve. A. PÉCHEN.—Injury from penetration of a foreign body into the orbit may cause blindness at once, from lesion of the optic nerve, without any immediate ophthalmoscopic injury. In a personal case related, a boy of 14 hit his eye against an iron rod, in the dark. The next day he could not see with it but no lesion, external nor internal, could be discovered for nearly fifteen days, when atrophy of the papilla became evident. Péchin has been able to collect only twelve similar cases in the literature, the earliest dating from 1873. He remarks that the prognosis should be extremely cautious in case of the penetration of a foreign body into the inner or outer angle of the eye, even when it does not remain in the eye, and in the absence of any appreciable lesion. Complete amaurosis, under such circumstances, should suggest a grave lesion of the optic nerve. It may show first as a discoloration and later as progressive optic atrophy, which will soon differentiate it from hysteria or simulation. The mechanism differs from that of optic atrophy consecutive to fracture of the optic foramen, which is itself consecutive to a fracture of the base of the skull or of the arch of the orbit. The atrophy in this case is due to the stretching of the nerve, which may be complicated by a direct traumatism.

Semaine Medicale (Paris), February 27 and March 6.

Quinin Treatment of Malignant Neoplasms.—Launois has recently reported a case of inoperable mammary carcinoma in which he relieved all the symptoms and restored the patient to active life, with partial retrogression of the neoplasm, by subcutaneous injections of quinin, as recommended by Jaboulay.

The latter has recently discovered that ingestion of quinin by the mouth is equally as effective in such cases as its subcutaneous administration. He gives one gram a day, substituting Fowler's solution two days in each week, and applies locally a 10 per cent. quinin salve, which he states has a remarkable antiseptic action.

Spinal Cocainization as Treatment of Sciatica.—Manega and Pullé, in Italy, have cured a case of intense pains in the lower members accompanying hemiplegia and one of rebellious sciatic neuralgia, by the subarachnoid injection of 15 mg. of cocain or .75 c.c. of a 2 per cent. solution of cocain. The pains were abolished with a single injection, and have not returned.

The Flap Method of Treating Anthrax.—Sacchetti has successfully treated several severe cases of anthrax by incising the lesion in the shape of an X down to sound tissue below and on each side. The four triangular flaps thus made are turned back, and the surface beneath packed with rolls of gauze moistened copiously with ferric chlorid. The flaps are then replaced, separated from the surface below and from each other by the gauze. The lesion rapidly heals; a dry eschar is thrown off from the surface below, and when a healthy granulating surface is left, the flaps are replaced and sutured, leaving but a minimal scar instead of the extensive defect that usually results.

March 6.

Filiform Bacilli Sign of Malignant Neoplasm of the Stomach. H. EHRET.—When the filiform bacillus is found in great numbers in the stomach, the possibility of a malignant neoplasm must be considered. If this phenomenon is not accompanied by indications of considerable stagnation of the contents of the stomach, it is sufficient ground alone for the diagnosis of carcinoma. In 29 cases in Ehret's experience, in which the great number of these bacilli attracted attention at the first glance, the existence of a malignant neoplasm was established later by the course of the affection in 25, and in the remaining 4 there was almost complete stagnation of the stomach contents from atony or stenosis of the pylorus, and a tumor might have existed unperceived.

Centralblatt f. Gyn. (Leipsic), February 16 and 23.

Difficulty in Extraction of Fetal Skull After Separation from the Trunk. F. NEUGEBAUER.—Seventy cases are reviewed, including a number that have not been published. Even such an expert as Hegar asserts that this complication, in one instance at least, rendered the accouchement the most difficult of all in his experience. It is frequently impossible to grasp the mobile skull. In 4 cases the patient died without extraction of the skull; in 16 the attempt to extract it was abandoned. In 6 instances the skull was spontaneously evacuated later, and in 7 it suppurated out in fragments. In 14 of the 70 cases the patient died. Cesarean section was done 6 times, and was successful in 3 cases. In one of these, Jaeggy experienced the greatest difficulty in extracting the skull from the small pelvis where it had become lodged. Laparotomy was done 11 times with 7 recoveries, and symphyseotomy once. The fetus was putrefied in 9 cases. The skull was separated by decapitation in 14 and torn off in 56 cases, in 23 by the attending physician, once by the woman herself, and once by the husband. Eleven patients were operated on for vesical or rectal fistulæ produced by retained fragments of bone, in one case sixteen years after the delivery. Narath succeeded in curing a patient who had a vesicovaginal and also a jejunovaginal fistula caused by perforation of the uterine wall by a piece of bone after fragmentary removal of the skull of a macerated fetus, one month after death at term. Neugebauer remarks that narcosis is imperative. If manual extraction is not possible, he proceeds at once to perforate the skull, according to Naegele's directions, and extract it with a cranioclast.

Cyst-Formation in Remains of an Ovary. H. EHRENFEST.—The question of neoplasms developing in the fragment of an ovary left after a conservative operation, is one of great interest Fischer and Waldstein have recently reported cases of this kind, and Martin mentions six. Ehrenfest calls attention to five that have been reported in American literature since 1897.

Cbl. f. Kr. d. Harn u. Sex. (Leipsic), February 9 and March 16.

Syphilitic Cystitis. CHRZELITZER.—The urine was turbid, slightly acid and occasionally blood-stained, but with no sugar indican, gonococci nor tubercle bacilli. Urination was frequent and painful, with retention at times. The patient, a man of 45, denied syphilis and refused narcosis. The tonsils were congested. Local treatment induced merely slight, transient improvement. Finally the testicle showed signs suspicious of syphilis, and under specific treatment the cystitis was promptly and permanently cured. It must have been due to a gummatous lesion in the bladder, the first and only indication of the infection for years.

March 16.

Improved Urethroscopy. N. NICOLAI.—The principle of the Welsbach light has been applied to the urethroscope by Nicolai. A very fine platinum wire, coated with thorium oxid, will bear without injury an amount of heat which would consume it without the protective coating. The light afforded is extremely brilliant. It is possible that the thorium takes up the heat and transforms it into light energy.

Deutsche Med. Wochenschrift (Leipsic), March 7.

Treatment of Gangrenous Hernia. W. PETERSEN.—Between 1877 and 1900, 309 cases of gangrenous hernia were treated at Czerny's clinic; 280 were operated on with a total mortality of 18.5 per cent. Petersen considers the Murphy button and Schleich's infiltration anesthesia the two most important improvements in treatment. The latter is a valuable protection against collapse and obviates aspiration pneumonia, which is the principal danger in operating for gangrenous hernia. Local anesthesia also permits the systematic, thorough evacuation of the contents of the afferent intestine. A long rubber tube is introduced, through which thin feces and gases are soon voided. When this ceases, a pint to a quart of water is allowed to flow into the intestine and this usually straightens it out so that more than three feet of the tube can be worked in. By flushing the intestine in this manner several times, assisted by light massage, incedible amounts of gases and feces are evacuated. The relief experienced by the patient compensates for all the inconveniences of consciousness during the operation. While this is being done the surgeon can be deciding as to the extent and intensity of the gangrenous process. Very recent cases of incarceration do not require such thorough cleansing. By these measures primary resection has become a much less serious operation than it used to be, and should be preferred for all cases of certain gangrene. Before they were introduced primary resection was done 15 times with 8 deaths, a mortality of 60 per cent. Since then it has been done 12 times with only 1 death, or 8 per cent. mortality. An artificial anus is an emergency makeshift. It should never be done except in case of severe collapse or of extensive phlegmons around the hernia. The latter, however, do not necessarily contraindicate primary resection. Reposition is not permissible if there is the slightest suspicion of a gangrenous tendency. Ten of the 18 deaths after reposition were from secondary necrosis of the intestines in the 20 or more cases in which there had been some doubt in regard to the vitality of the tissues, a mortality of 50 per cent. The loop was kept outside for observation in only 3 cases; one required resection later. The grooves where the forceps had been applied became necrotic, which never occurred in Petersen's experience when the intestine was replaced in the peritoneal cavity, and this suggests that the circulation may be unfavorably influenced by this procedure. Reposition was done 216 times, with a mortality of 11 per cent.; artificial anus 22 times, mortality 67 per cent., and primary resection 22 times, mortality 33 per cent. During and since 1898, an artificial anus was made in only 5 cases, with 5 deaths. The proportion of cases in which the operation was responsible for the fatal termination has been reduced from 33 to 12 per cent. during and since 1898. The article is concluded from Nos. 8 and 9 and contains the details of all the cases of primary resection.

Radical Operation for Hernia in Childhood. H. MAASS.—During the last five years Maass has operated on 33 children

for hernia, about 1 per cent. of all the cases he has had occasion to treat. Under 1 year of age a suitable truss will usually cure the hernia without operation. The tissues in childhood grow so rapidly that a plastic operation is unnecessary under 4, and was not required in any of his operations under 7 years of age. All have been permanently cured, many for more than two years. The child's serosa is so tender and transparent that it is not necessary to open the sac. This reduces the danger of infection. Maass merely pulls out the isolated sac, twists it several times and ligates it at the neck with silk. The wound is closed with iodoformed collodion, without other dressing. The sutures are removed the sixth day and the collodion renewed, which completes the operation. There is little or no general reaction and the local varies with the tender handling of the serosa. The most serious complications were in six cases of vaginal hernia. The principal danger is from the narcosis. In 4 cases there was extraperitoneal infection of the side of the scrotum, requiring drainage and tamponing. In one case the vas deferens or testicular vessels must have been injured, as necrosis of the testicle ensued, requiring its removal ten months afterward. An incarcerated inguinal hernia in a ten-months infant contained no intestine but the entire adnexa of that side, twisted and hemorrhagic. They were excised and the child soon recovered.

Sieve for Feces. MAX EINHORN.—An ordinary flour sieve is mounted on a tripod standard and fitted with a cover sloping inward to an aperture in the center. The feces are placed on the sieve, the apparatus placed under the faucet and the handle turned as the water flows through. The feces are thus rubbed smooth and rinsed clean in three to six minutes, with less trouble than with Boas's sieve devised for the purpose (illustrated in THE JOURNAL of Oct. 6, 1900, p. 913). The flour sieve can be used alone without further adaptation.

Jahrbuch f. Kinderheilkunde (Berlin), January.

Relations Between Scrofulosis and Tuberculosis. E. PONFICK.—From the etiologic point of view there is a pyogenic scrofulosis, a bacillogenic, and a third mixed variety. Ponfick considers it an open question whether the conception of scrofulosis shall be carried over into the new century or not. It has certainly outlived its meaning as a specific affection, but until a more appropriate term is invented, it still serves to represent that anomaly in the constitution which influences the course of inefctions and imparts a special character to them. This constitutional disposition depends on the congenital or acquired enhancement of certain features of the childish organism, on the one hand, and on the other, on a congenital, abnormal tendency in the development of certain cell-complexes. It may also depend—but very rarely—on a direct, intrauterine transmission of the pathogenic agent. Future researches will find a fruitful field in the congenital deviations from the normal constitution, which betray a condition of weakness in certain regions of cells.

Purulent Cerebrospinal Meningitis Caused by the Influenza Bacillus. J. LANGER.—After eleven days of severe, progressive and rebellious meningitis in a girl of 9, Langer resorted to lumbar puncture. About 8 c.c. of cerebrospinal fluid were withdrawn, which deposited a thick sediment of fibrin and polynuclear leucocytes, many containing influenza bacilli. The temperature dropped to normal immediately after the puncture, as at a crisis, and the patient rapidly recovered. He has noticed the same favorable result in a number of other cases of meningitis.

Wiener Klin. Rundschau, February 17 and 24.

The So-called Sclerotic Atrophy of the Hemispheres. E. BISCHOFF.—In the two cases reported, of progressive epilepsy with idiocy or dementia, the autopsy showed that one of the cerebral hemispheres was slightly smaller and harder than the other. In every other respect it appeared normal under the microscope and all tests. There was no atrophy nor sclerosis. In both patients and in others that have been reported, the course of the affection and the anatomic findings indicated an original encephalitis restricted to one hemisphere, but evenly generalized in this, and gradually retrogressing to complete anatomic restitution. It imposed, however, a premature limit on the physiologic development of the hemisphere, and left a permanent disposition to epilepsy. The first indications were symptoms of an acute encephalitis between the second and sixth years of age, and paralysis, with or without fever, lasting for days or weeks. The hemiplegia may persist or subside. The subjects later become feeble-minded or idiotic in most cases, and epileptic seizures usually follow after months or years, or may coincide with the first manifestations. In a few cases there was almost complete restitution in the nervous and psychic domain. In Muhr's case there was no epilepsy, merely slight hemiparesis and moral weakness, terminating in insanity. Kast's patient showed no signs of mental deficiency. In Bischoff's first case, and also in one described by Bourneville, and in another by Ollier, there were no marked paralytic symptoms. In his second case, on the other hand, the symptoms deceptively indicated a focal affection in the region of the cortical center for the arm. Spastic paresis and hyperesthesia were noted over the entire left side, explainable by defective functioning of the abnormally small hemisphere. Disturbances of this nature must entail the same symptoms as a diffuse partial interruption of the nerve fibers passing from the peripheral to the central masses of gray matter, as for instance by a tumor. These cases show that the central nervous system requires not only normal brain substance, but also a certain quantitative minimum for its normal functioning. The anatomical findings in these cases are similar to those in Struempell's pseudo-sclerosis, but the clinical course is entirely different.

February 24.

Cure of Lymphangitis with Massage. BATSCH.—The advantages of massage in reducing inflammation, aborting phlegmons, and curing lymphangitis and lymphadenitis, have long been proclaimed by Batsch. He now relates a striking personal experience with a very severe lymphangitis, the result of infection from a cut on his finger inflicted while operating on a rectal fistula, and further infected at a five-hour medico-legal autopsy. In less than two hours after the infection had traversed the barrier of the first obstruction in the finer lymphatics, the lymph vessels in the upper arm were engorged with bacteria. He made an opening above and applied the galvanocautery to the wound. The arm and axilla were energetically massaged for one-half to one hour, two or three times a day, lubricating with gray ointment. The massage deprived the bacteria of the quiet necessary for their development, and obviated the danger of obstruction of the lymph vessels with subsequent destruction of tissue. It summoned the leucocytes with their bactericidal enzymes to the region, and distributed the bacteria throughout the circulation so that the entire army of phagocytes could act upon them. The threatening symptoms subsided without abscess formation, in four to five days, but he continued the massage for three weeks, once or twice a day, supplemented by an abundance of nourishing food to meet the extra demands on the blood-forming organs. The fever noticed after the first massage was probably from a chemical reaction due to the dissolving of the bacteria by the alexins secreted by the leucocytes.

Wiener Klin. Wochenschrift, February 28.

Experiences with Cinnamic Acid in the Treatment of Tuberculosis. POLLAK AND HODLMOESER.—Pollak reports that in many cases treatment with cinnamic acid, according to Landerer's directions, had an unmistakably favorable effect on the entire course of the disease. It may prove a valuable aid in the treatment of tuberculosis in certain cases, he concludes, but, as a general thing, sanitarium treatment alone is fully as effective. He reports 48 cases of pulmonary tuberculosis thus treated. The results were that 66.7 per cent. were essentially improved, including 12.5 per cent. clinical recoveries, and 20.8 per cent. improved. No benefit was derived in 5 cases of intestinal tuberculosis. Two out of 9 cases of laryngeal tuberculosis were completely cured after the failure of other methods. Another was much improved by a combination of cinnamic and lactic acids. One out-patient with pulmonary tuberculosis was clinically cured by the treatment; another old chronic case, under the same conditions, was not influenced.

The remainder of the patients were inmates of the Alland sanitarium. Hodlmoeser reports 22.2 per cent. of essential improvement in 18 patients with pulmonary tuberculosis, including 7 out-patients. Kraemer has collected 186 cases treated by Landerer's method. Of this number 81 were under treatment for more than four weeks, with positive results in 72.8 per cent. and negative in 27.2 per cent. Hodlmoeser agrees with Ewald that the results to date of treatment with cinnamic acid encourage further trials.

Ziegler's Beitraege z. Allg. Path. (Jena), XXIX, 1.

Permeability of Granulating Tissue for Pathogenic Micro-organisms. A. JUERGELUENAS.—An aseptic, uninjured granulating surface proved a complete mechanical protection against penetration of bacteria in most of the tests reported. Bacteria placed on the granulating surface were not modified in the case of animals susceptible to infection, but on immune animals the bacteria were much altered by the secretions, and killed in the course of six hours. The animals who had not experienced the slightest harm from anthrax bacilli placed on the granulating surface, rapidly succumbed when they were placed on a fresh wound or injected under the skin. The character of the dressings has no influence on the course of the infection, but the healing processes are less rapid under an air-tight dressing.

Retroperitoneal Hernia. C. ABÉE.—At the autopsy on a man of 53, who had been received moribund at the hospital, a large hydronephrosis was found, coinciding with an enormous, complete retroperitoneal hernia. Eight of the fifteen similar cases that have been reported were cured by surgical intervention; the prognosis is better the earlier the diagnosis. In this case the hernia protruded though Treitz's vascular ring, composed of the aorta, left colic artery and inferior mesenteric vein.

Zeitschrift f. Hyg. u. Infect. (Leipsic), XXXVI, 1.

Artificial Production of Immunizing and Curing Substance. R. EMMERICH AND O. LÖW.—By the artificial cultivation of bacteria on a large scale, Emmerich and Löw have reaped an extensive harvest of the specific bacteriolytic enzyme which is produced when bacteria are developing on a suitable culture-medium or in the animal organism. The combination of this enzyme with the albumin of the blood or organs, produces the actual, specific immunizing and curative substance, the immun-proteidin, as it is called. They have succeeded in manufacturing this substance on a large scale for swine plague and anthrax. The immunizing and curative results obtained with it have been so successful that they proclaim this agricultural method of obtaining the specific remedy destined to supplant serotherapy for infectious diseases. The medium must require weeks and months, instead of days, for the bacteria to develop in it, in order that the harvest of enzymes reaped may be as abundant as possible. The mixture found most satisfactory is a combination of asparagin, .8 gm.; pepton sicc., 10 gm.; potassium-sodium tartrate, .8 gm.; sodium bicarbonate, 1 to 2 gm.; potassium biphosphate, 2 gm.; magnesium sulphate, .15 gm.; sodium chlorid, 3 gm.; bouillon, 100 gm., and aq. dest., 1000 c.c. The bacilli of swine plague grow slowly on this medium and produce the enzyme, "erysipelase," in abundance. The culture-medium for the bacillus pyocyaneus is nearly the same, omitting the peptone, bicarbonate, tartrate and bouillon and adding sodium acetate. They state that the "pyocyanase" thus derived is a certain cure for anthrax, destroys diphtheria and typhoid bacilli, and it is possible to cure an otherwise fatal intoxication in guinea-pigs by repeated subcutaneous injections of this pyocyanase solution. The media are sown in pint or quart vessels and kept at 25 C., and later at 30 to 37 C. After four or five weeks they are shaken several times a day, and then, after a day's rest, the fluid is aspirated and filtered through a Berkefeld filter. The albumin is added, in the form of fresh beef blood or ground spleens, with .3 per cent. sodium oxalate and .4 per cent. caustic potassium or .3 per cent. potassium carbonate. The mixture is kept at 37 C. for six to eight hours. The finished immun-proteidin thus obtained is a highly molecular, trypsin-proof albuminoid. It is precipitated with ten times the amount of absolute alcohol and made into a powder. The enzyme is also a powder and has been kept for two years without losing any of its properties. The particles of spleen show marked agglutination at first, as in the Widal test.

Gazetta degli Ospedali (Milan), February 24.

Primary Syphilitic Pleurisy. N. DE DOMINICIS.—A syphilitic origin was retrospectively evident in seven cases of primary pleurisy in this writer's experience during the last five years. It was distinguished by its chronic course, commencing with extensive effusion and becoming later extremely hyperplastic, by the absence of high or continuous fever and of acute pains, although there were dull, diffuse pains and progressive dyspnea. This chronic phlogosis may last for years, entailing progressive cachexia, although never severe as in case of a malignant tumor. The affection is rebellious to all ordinary measures, but promptly subsides under mercurial treatment. One of his patients refused to acknowledge syphilitic infection and rejected specific treatment, but the slowly progressive cachexia and dyspnea for three years finally compelled him to yield, and ten injections of succinamid of mercury produced marked improvement, while fifty more cured him completely.

Talma's Operation for Ascites. T. POZZAN.—Ascites accompanying hepatic cirrhosis has been treated, by Talma, by the production of peritoneal adhesions and the fixation of the omentum to the abdominal wall, all for the purpose of establishing collateral circulation. This procedure has been employed in 18 cases by various surgeons, with 5 deaths, 7 patients cured of the ascites, and 6 unmodified by the intervention. Death occurred as the result of shock, peritonitis, interstitial nephritis or marasmus. All the patients operated on were affected with atrophic cirrhosis, and in all the successful cases the general health was improved and the spleen reduced in size, besides the abolition of the ascites. The operation is especially indicated for young subjects in the early stages of the affection, before the liver cells have lost their vitality. It is contraindicated in case of icterus, urobilinuria, acholia or hypocholia. It is by no means a radical cure of atrophic cirrhosis of the liver, but its harmlessness and the successes obtained in certain cases with it justify its more general adoption. A personal case is described, operated on in an advanced, chronic stage of the affection. Improvement was apparent for a time, but the affection continued its course till the patient's death, eleven months later.

Cirugia Contemporanea (Mexico), I, 1.

Spinal Cocainization. J. VILLARREAL.—Four cases are cited in which gynecologic operations were performed under the influence of spinal injections of .75 to 1 c.c. of a 2 per cent. solution of cocain. In all but one case the patient complained of pain on traction of the peritoneum, and the anesthesia was completed with a small amount of chloroform. Villarreal suggests that the injection of cocain might be fully as effective for operations on the lower limbs, if made in the cauda equina, while the danger of injuring the cord would be avoided.

Books Received

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Second Edition. Revised and Largely Rewritten. Vol. II. Fevers—Diseases of the Respiratory and Circulatory Systems—Diseases of the Digestive System and Kidneys—Nervous Diseases and Diseases of the Skin. With Illustrations. Cloth. Pp. 926. Price, $5.00 net. Philadelphia and New York: Lea Brothers & Co. 1901.

A TREATISE ON THE DISEASES OF THE EAR, Including the Anatomy and Physiology of the Organ. Together with the Treatment of the Affections of the Nose and Pharynx Which Conduce to Aural Disease. By T. Mark Hovell, F.R.C.S. Edin., M.R.C.S. Eng., Aural Surgeon to the London Hospital. Second Edition. Cloth. Pp. 808. Price, $5.50. Philadelphia: P. Blakiston's Son & Co. 1901.

HYPNOTISM. A Complete System of Method, Application and Use, Prepared for the Self-Instruction of the Medical Profession. By L. W. De Laurence, Instructor at the School of Hypnotism and

Suggestive Therapeutics, Pittsburg. Illustrated. Cloth. Pp. 256. Price, $1.50. Chicago: The Henneberry Co.

TRANSACTIONS OF THE IOWA STATE MEDICAL SOCIETY. Volume XVIII. Forty-ninth Annual Session, 1900. Cloth. Pp. 442. Waterloo, Ia.: Geo. C. Hubbs.

THE MEDICAL MISSIONARY SOCIETY IN CHINA. Annual Report for the Year 1900. Paper. Pp. 33.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. March, 1901. Paper. Published by the Society. 1901.

ORAL SEPSIS as a Cause of "Septic Gastritis," "Toxic Neuritis," and Other Septic Conditions. With Illustrative Cases. By William Hunter, M.D., F.R.C.P., Senior Assistant Physician, the London Fever Hospital. Cloth. Pp. 30. Price, 3/6. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1901.

REPORT OF THE MINISTER OF AGRICULTURE FOR THE DOMINION OF CANADA for the Year Ended October 31, 1900. Printed by order of Parliament. Paper. Pp. 131. Price, 15 cents. Ottawa: S. E. Dawson. 1901.

SIXTH BIENNIAL REPORT OF THE BOARD OF TRUSTEES OF THE DELAWARE STATE HOSPITAL at Farnhurst. December, 1900. Paper. Pp. 109. Wilmington, Del.: Sunday Star Print. 1900.

ANNUAL REPORT OF THE DEPARTMENT OF HEALTH, City of Niagara Falls, N. Y., for the Year 1900. Submitted by James H. Meehan, M.D., Health Officer. January, 1901. Paper. Niagara Falls, N. Y.: Cataract Journal Co. 1901.

CYCLIC ALBUMINURIA. By G. A. Sutherland, M.D., Physician to Paddington Green Children's Hospital. Paper. Pp. 63. Price, 2s 6d net. London: Clinical Journal Office. 1900.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., March 7 to 13, 1901, inclusive:

Charles Anderson, captain and asst.-surgeon, Vols., recently appointed, to proceed from Fort Brown, Tex., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Robert W. Andrews, lieutenant and asst.-surgeon, 46th Infantry Vols., honorably discharged from the service of the United States, to take effect March 17, 1901.

John E. Bingham, acting asst.-surgeon, now at Walla Walla, Wash., to duty at Fort Walla Walla, relieving Major Walter Whitney, surgeon, Vols.

Joseph, K. Combe, acting asst.-surgeon, now at Brownsville, Tex., to duty at Fort Brown, Tex.

Frederick A. W. Coon, acting asst.-surgeon, leave of absence granted.

William H. Corbusier, major and surgeon, U. S. Army, member of a board at Governor's Island, N. Y., to examine officers of the army for promotion.

Frederick W. Cox, captain and asst.-surgeon, Vols., recently appointed, from Vermillion, S. D., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

J. B. Cutter, acting asst.-surgeon, leave of absence from the Department of California extended.

J. Ryan Devereux, acting asst.-surgeon, member of a board at Washington Barracks, D. C., to examine officers of the army for promotion.

Frank A. E. Disney, captain and asst.-surgeon, Vols., recently pointed, to proceed from Chicago, Ill., to San Francisco, Cal., en tion to Manila, P. I., and subsequent assignment in the Division of the Philippines.

Gerry S. Driver, captain and asst.-surgeon, Vols., recently appointed to proceed from Chicago, Ill., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Richard M. Fletcher, Jr., acting asst.-surgeon, leave of absence from the Department of Dakota extended.

John S. Fogg, acting asst.-surgeon, leave of absence granted.

Ernest W. Fowler, acting asst.-surgeon, from New York City N. Y., to duty at Fort Preble, Me.

Francis A. Halliday, acting asst.-surgeon, member of a board at Fort McPherson, Ga., to examine officers of the army for promotion.

Harry M. Hallock, captain and asst.-surgeon, U. S. Army, member of a promotion board at Fort McPherson, Ga.

Paul C. Hatton, lieutenant and asst.-surgeon, U. S. Army, recently appointed, to duty at Fort Thomas, Ky.

James S. Kennedy, captain and asst.-surgeon, Vols., recently appointed, to proceed from Fort Sam Houston, Tex., to San Francisco, Cal., en route to Manila, P. I., for assignment in the Division of the Philippines.

Frank P. Kenyon, captain and asst.surgeon, Vols., recently appointed, to proceed from Joplin, Mo., to San Francisco, Cal., en route for duty in the Division of the Philippines.

John S. Kulp, major and surgeon, Vols., from the Division of the Philippines to duty at Fort Hancock, N. J.

Harry A. Littlefield, captain and asst.-surgeon, Vols., recently appointed, to proceed from Portland, Oregon, to San Francisco, Cal., en route for duty in the Division of the Philippines.

James C. Merrill, major and surgeon, U. S. Army, member of a board at Washington, D. C., to examine officers of the army for promotion.

George H. Penrose, major and surgeon, Vols., sick leave from the Department of California extended.

Arlington Pond, major and surgeon, Vols., recently appointed, to duty at Fort Preble, Me.; subsequent orders relieve him from this duty, grant him leave of absence, on the expiration of which he is directed to proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Samuel O. L. Potter, major and surgeon, Vols., recently appointed and now in San Francisco, Cal., to report for transportation to Manila, P. I., and for assignment in the Division of the Philippines.

Dwight B. Taylor, captain and asst.-surgeon, Vols., recently appointed, to proceed from Columbus Barracks, Ohio, to San Francisco, Cal., en route to Manila, P. I., for assignment in the Division of the Philippines.

Ira A Shimer, lieutenant and asst.-surgeon, U. S. Army, former orders relieving him from the Department of Cuba and assigning him to duty at Fort Columbus, N. Y., revoked.

Justus M. Wheat, acting asst.-surgeon, leave of absence granted.

Ernest H. Wheeler, captain and asst.-surgeon, Vols., recently appointed, to proceed from Rockland, Me., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Walter Whitney, major and surgeon, Vols., recently appointed, to duty at Fort Walla Walla, Wash.

Allie W. Williams, lieutenant and asst.-surgeon, U. S. Army, member of a board at Governor's Island, N. Y., to examine officers of the army for promotion.

Charles K. Winne, major and surgeon, U. S. Army, from Fort Porter, N. Y., to Washington, D. C., for consultation with the surgeon-general on official business pertaining to the exhibit of the medical department of the army at the Pan-American Exposition at Buffalo, N. Y., returning thereafter to his proper station.

Leonard Wood, brigadier general, U. S. Army, resignation of his commission as captain and asst. surgeon, U. S. Army, accepted by the President, to take effect March 2, 1901, the date of his acceptance of his commission as brigadier-general, U. S. Army.

Robert H. Zauner, major and surgeon, Vols., from Fort Du Pont, Del., to San Francisco, Cal., en route to Manila, P. I., for duty in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended March 16, 1901:

Surgeon O. Diehl, ordered to the *Indiana*, March 15.

Asst.-Surgeon R. K. McClannahan, detached from the *Indiana*, and ordered home to wait orders for sea duty.

Asst.-Surgeon O. M. Eakins, resignation accepted to take effect April 15, 1901.

Pharmacist H. T. Morse, detached from the Boston Navy Yard, and ordered to the *Michigan*.

Pharmacist I. N. Hurd, detached from the *Wabash* and ordered to the Boston Navy Yard.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 16, 1901:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 2-9, 1 death.
California: Feb. 24-March 2, Los Angeles, 5 cases; Oakland, 1 case; Sacramento, 1 case.
Illinois: Chicago, March 2-9, 7 cases.
Indiana, Evansville, Feb. 24-March 9, 2 cases.
Kansas: Wichita, March 2-9, 23 cases.
Kentucky: Lexington, March 2-9, 1 case.
Louisiana: New Orleans, March 2-9, 14 cases, 3 deaths.
Massachusetts: March 2-9, Lowell, 1 case; Somerville, 1 case.
Michigan: March 2-9, Detroit, 1 case; Grand Rapids, 1 case.
Minnesota: Minneapolis, Feb. 24-March 2, 4 cases; Winona, March 2-9, 2 cases.
Nebraska: South Omaha, Dec. 28-Feb. 5, 5 cases.
New Hampshire: Manchester, March 2-9, 21 cases.
New York: New York, March 2-9, 54 cases, 10 deaths.
Ohio: Cincinnati, March 2-9, 2 cases; Cleveland, March 2-9, 52 cases; Dayton, Nov. 2-9, 1 case.
Oregon: Portland, Feb. 1-28, 2 cases.
Pennsylvania: March 2-9, Erie, 2 cases; Philadelphia, 1 case; Steelton, 1 case.
Tennessee: Jackson, Jan. 1-31, 20 cases, 2 deaths; Memphis, March 2-9, 10 cases; Nashville, March 2-9, 11 cases; San Antonio, Feb. 1-28, 16 cases.
Utah: Ogden, March 2-9, 18 cases.
Washington: Tacoma, Feb. 25, 6 cases.
West Virginia: Huntington, March 2-9, 11 cases; Wheeling, Feb. 24-March 9, 4 cases.
Wisconsin: Milwaukee, March 2-9, 2 cases.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, Feb. 9-23, 14 cases; Vienna, Feb. 16, 23, 1 death.
Belgium: Antwerp, Feb. 9-23, 2 cases.
Canada: Ontario, Sudbury, Feb. 22, prevalent.
Ceylon: Jan. 26-Feb. 2, 1 case, 1 death.
Egypt: Cairo, Jan. 28-Feb. 4, 2 cases.
Great Britain: England—London, Feb. 16-23, 1 case; Newcastle on Tyne, Feb. 16-23, 1 case. Scotland—Dundee, Feb. 16-23, 2 cases; Edinburgh, Feb. 16-23, 1 case; Glasgow, Feb. 22-March 1, 13 deaths.
India: Bombay, Jan. 29-Feb. 12, 6 deaths; Calcutta, Jan. 26-Feb. 9, 235 deaths; Karachi, Jan. 27-Feb. 10, 15 cases, 7 deaths; Madras, Jan. 26- Feb. 8, 8 deaths.
Italy: Naples, Feb. 20, present.
Malta: Feb. 16-28, 1 case.
Mexico: Yucatan, Progreso, Feb. 19-28, 16 cases, 4 deaths.
Philippines: Manila, Jan. 5-19, 4 cases.
Russia: Moscow, Feb. 2-16, 10 cases, 1 death; Odessa, Feb. 8-23, 26 cases 7 deaths; St. Petersburg, Feb. 8-16, 7 cases, 1 death; Warsaw, Feb. 8-16, 6 deaths.

YELLOW FEVER.

Colombia: Jan. 7, Honda, epidemic; Guaduas, epidemic.
Cuba: Cienfuegos, March 4, 1 death; Havana, Feb. 25-March 4, 2 cases, 1 death.
Mexico: Vera Cruz: Feb. 16-23, 2 cases.

CHOLERA.

India: Bombay, Jan. 29-Feb. 12, 12 deaths; Calcutta, Jan. 26-Feb. 9, 33 deaths; Madras, Jan. 26-Feb. 8, 22 deaths.
Straits Settlements: Singapore, Jan. 12-26, 35 deaths.

PLAGUE—FOREIGN AND INSULAR.

Africa: Cape Town, Feb. 16-26, 44 cases, 6 deaths.
China: Hongkong, Jan. 19-26, 2 cases, 2 deaths.
India: Bombay, Jan. 29-Feb. 12, 1711 deaths; Calcutta, Jan. 26-Feb. 9, 176 deaths.
Philippines: Manila, Jan. 5-19, 2 deaths.